| A.A.P.G. Abstracts. Annual Meeting, Dallas, March 16–19, 1959 ———. Abstracts. Joint Gulf Coast Regional Meeting, Houston, November 11–13, 1959; | 1765 |
|--|-------|
| A.A.P.G. Regional Meeting | 2511 |
| Abstracts. Pacific Section Meeting, November 6-7, 1958 | 252 |
| | 1093 |
| | 1093 |
| at Fifth World Petroleum Congress, New York City, May 31-June 5, 1959. By A. John | |
| | 2509 |
| | 1473 |
| Committees | 2881 |
| Constitution and By-Laws | 2250 |
| Distinguished Lecture Tour of Conselman, Frank B. | 499 |
| | 2539 |
| | 2740 |
| | |
| | 2740 |
| | 2283 |
| Division of Paleontology and Mineralogy. Recent Publications | |
| | 2248 |
| | |
| ence Organization | 1978 |
| Financial Statement | 705 |
| | |
| 45th Annual Meeting, Atlantic City, April 25–28, 1960. Technical Program | |
| | 2324 |
| Forty-Fourth Annual Business Meeting, Dallas, Texas, March 19, 1959. Minutes. | |
| | 1439 |
| | 1765 |
| Forty-Fourth Annual Meeting, Dallas, March 16-19, 1959. Tentative Program. By | |
| Robert E. Rettger | 495 |
| Forty-Fourth Annual Meeting, Dallas, Texas, March 16-19, 1959. The Convention. | |
| | 1437 |
| Geologic Cross Sections Sponsored by Geological Societies Affiliated or Cooperating | r ioi |
| | 1733 |
| | |
| | 1741 |
| | 1744 |
| | 1747 |
| Honorary Member, Severy, Clarence Luther. By George I. McFerron. | 1750 |
| Honorary Member, Spooner, William Calvin. By Claude N. Valerius | 1752 |
| | 754 |
| | 1756 |
| | |
| 40. 1 10. 11. 4 10.11. | 760 |
| | 1100 |
| — Membership Applications Approved for Publication | 1000 |
| | |
| Membership Directory | |
| | 2261 |
| — Mid-Continent Regional Meeting, Wichita, Kansas, October 28–30, 1959 2033, 2 | 274 |
| — Mid-Continent Regional Meeting, Wichita, Kansas, October 28–30, 1959, Technical | |
| | 2510 |
| | 732 |
| | 704 |
| | |
| Pacific Section Annual Meeting, Los Angeles, November 12–13, 1959, Technical Pro- | 1,4 |
| | |
| | 521 |
| ———. Pacific Section Meeting, November 6–7, 1958. Abstracts | 252 |
| | 758 |
| Report of A.A.P.G. Directors of American Geological Institute. By Noel H. Stearn | |
| | 454 |
| Report of Basement Rocks Project Committee. By Peter T. Flawn | 474 |
| | 469 |
| Report of Business Committee, Minutes. Norman C. Smith, Chairman. By Harold T. | |
| | 451 |
| | 101 |

| Report of Commissioner on American Commission on Stratigraphic Nomenclature. | |
|--|-------|
| By Louis C. Sass | 1457 |
| Report of Committee for Publication. By John H. Maxson | 1464 |
| Report of Committee on Code of Ethics. By Ben H. Parker, Frank B. Conselman, | |
| F. M. Van Tuyl, and John M. Ware | 1477 |
| Report of Committee on Preparation of Lantern Slides. By W. R. Moran | 1481 |
| Report of Committee on Preservation of Samples and Cores. By Hal H. Bybee | 1471 |
| Report of Committee on Special Volume of Pennsylvanian of United States. By Carl C. | |
| Branson, John Emery Adams, and R. H. Dott | 1474 |
| Report of Committee on Statistics of Exploratory Drilling. By B. W. Blanpied | 1464 |
| Report of Committee on Stratigraphic Correlations. By John C. Maher | 1462 |
| Report of Distinguished Lecture Committee. By B. W. Beebe | 1467 |
| | 1449 |
| | 1477 |
| | 1472 |
| | 1465 |
| | 1480 |
| | 2270 |
| Report of Nominating Committee. By Theo. A. Link | 1479 |
| Report of President, By Geo, S. Buchanan | 1439 |
| | 1463 |
| | 1400 |
| | 1456 |
| | 1458 |
| | 1483 |
| | 1441 |
| | 1474 |
| | 14/4 |
| Report of Trustees of Research Fund. By G. D. Thomas, H. D. Hedberg, and M. W. | 1450 |
| Sherwin | 1458 |
| Report of Voluntary Research Fund Campaign Committee. By C. E. Brehm | 1476 |
| Research Contributions—The \$1,000 Club. By Michel T. Halbouty | 2279 |
| i recommend a direct and analysis of the second sec | 2893 |
| | 2276 |
| . Mothy mountain occion meeting, moudacidae, a coramy a si socionation | 1093 |
| | 240 |
| By Henry S. Birdseye | 248 |
| | |
| | 1738 |
| Southwestern Regional Meeting, October 8-10, 1959, Lubbock, Texas . 705, 2033, | 2213 |
| ——. Special Publications and Guidebooks Published in 1958 by Societies Affiliated or Co- | 4775 |
| | 1735 |
| A.A.P.G. and S.E.P.M. Annual Meetings, Dallas, Texas, March 16-19, 1959. Sponsored by | 210 |
| Dallas Geological Society. Announcement. By W. Dow Hamm | 269 |
| Abstracts. Annual Meeting, Dallas, March 16-19, 1959 | 1765 |
| , John Competition of the Compet | 2511 |
| Pacific Section Meeting, November 6–7, 1958 | 252 |
| | 1093 |
| Adams, John Emery, et al. Report of Committee on Special Volume of Pennsylvanian of United | |
| | 1474 |
| Addition of Perspective to Contour Maps. Geological Note by H. W. Patnode and Robert P. | |
| Trump | 2009 |
| Adkison, W. L. Geological Note on Geologic Cross Sections Sponsored by Geological Societies | |
| Affiliated or Cooperating with American Association of Petroleum Geologists During | |
| | 1733 |
| Advantages of Large Constant "Rod Correction" in Stadia Surveying. Geological Note by | |
| Richard L. Threet | 1075 |
| Africa, Petroleum Developments in 1958. By Hollis D. Hedberg, John D. Moody, and Louis C. | |
| Sass | 1625 |
| Age and Correlation of Huizachal Group (Mesozoic), State of Tamaulipas, Mexico. By Robert | 60000 |
| B. Mixon, Grover E. Murray, and Teodoro Díaz G. (Addendum, 2499) | 757 |
| Agnich, Fred L. and R. C. Dunlap, Ir. Standards of Performance in Exploration. Abstract | 1773 |
| Akkerman, R. P. Turtle Bay Field, Chambers County, Texas. Abstract | 2515 |
| Alaska, Developments in 1958. By H. Mann | 1427 |
| Legal Consequences of Statehood. By R. E. Patton. Abstract | 259 |
| | |

INDEX OF VOLUME 43 (1959) 2903 -. Northern, Geophysical Exploration in. By John R. Woolson. Abstract 260 Recent Developments in. By W. B. Sherman and J. W. Watson. Abstract 1779 Regional Geologic Interpretations of Aeromagnetic Profiles of Selected Areas in. By I. Zeitz, G. E. Andreason, and W. J. Dempsey. Abstract 260 Summary of Jurassic Stratigraphy of. By M. V. Kirk. Abstract 260 Alberta, Application of Resistivity Mapping to Upper Devonian Interreef Ireton Formation of. By R. G. McCrossan. Abstract 1101 , Bellshill Lake Field. Geological Note by John C. Rudolph 880 Bellshill Lake-Thompson Lake Cretaceous Oil Fields. By Ralph W. Edie. Abstract 1095 Canada, Geophysical and Petrological Study of Precambrian of Central. By G. D. Garland and R. A. Burwash . 790 Canada, New Upper Devonian Reef Producing Horizon, North-Central. By Alexander Clark. Abstract , Canada, Provost Gas Field. By J. E. Renaud. Abstract . 1104 Canada, Structure and Accumulation of Hydrocarbons in Southern Foothills. By F. G. Fox 992 Central, Geometry of Oil and Gas Accumulations Associated with Edmonton Reef Chain. By E. L. Herbaly. Abstract 1098 , Geology of Devonian Beaverhill Lake Formation, Swan Hills Area. By George Fong. Abstract 1097 , Southern Stratigraphic Analysis of Winterburn and Wabamun Groups in. By P. G. Sutterlin. Abstract Alberta and British Columbia, Canada, Triassic Stratigraphy, Peace River Area. By A. D. Hunt and J. D. Ratcliffe 563 Alberta and of Adjacent Parts of British Columbia and Northwest Territories, 1845-1955, Annotated Bibliography of Geology of the Sedimentary Basin of, by Alberta Geological Society. Review by J. V. Howell 2018 Alberta and Saskatchewan, Canada, Geochemical Aspects of Petroleum Migration in Pembina, Redwater, Joffre, and Lloydminster Oil Fields of. By Gordon W. Hodgson and Bruce L. 311 Alberta, Southern, and Adjoining Areas, Lower Cretaceous of. By R. Perry Glaister 590 Alberta Geological Society. Annotated Bibliography of Geology of the Sedimentary Basin of Alberta and of Adjacent Parts of British Columbia and Northwest Territories, 1845-1955. Review by J. V. Howell 2018 Alkire, Robert L., Bernard A. Floto, and Allan W. Johnson. Oil and Gas Developments in Ohio in 1958 1161 American Commission on Stratigraphic Nomenclature. Note 22—Records of the Stratigraphic Commission for 1957-1958. Prepared by Kenneth E. Lohman 1967 Note 23-Need for Rock-Stratigraphic Units Larger Than Group. By John Rodgers and Richard B. McConnell 1971 Note 24-Unconformity-Bounded Units in Stratigraphy. By Harry E. Wheeler 1975 Report 6-Application of Stratigraphic Classification and Nomenclature to the Quaternary. Prepared by Gerald M. Richmond (Discussion, 674) 663 American Geological Institute. Survey of College Students Majoring in Geology 1079 Amsden Formation in Wolf Springs-Delphia Area, Central Montana, Stratigraphy of. By R. D. Ramsey. Abstract 1103 Anacacho Limestone of Southwest Texas, Petrology of. By Lee L. Harvill. Abstract . 2521 Anadarko Basin, Oklahoma, Stratigraphic Traps Along North Shelf of. By J. Durwood Pate Anahuac and Frio Formations of Northeastern Mexico, Petroleum Geology of. By Lauro A. Yzaguirre. Abstract Analysis of Factors Affecting Quantitative Estimates of Organism Abundance. By Louis S. Kornicker. Abstract Andes, Explorations East of the High, by Victor Oppenheim. Review by Glenn O. Briscoe 1085 Andreason, G. E., et al. Regional Geologic Interpretations of Aeromagnetic Profiles of Selected Areas in Alaska. Abstract 260 Andrichuk, John M. Ordovician and Silurian Stratigraphy and Sedimentation in Southern 2333 Manitoba, Canada . Recipient of President's Award, By Ralph W. Edie 1758 Annotated Bibliography of Geology of the Sedimentary Basin of Alberta and of Adjacent Parts of British Columbia and Northwest Territories, 1845-1955, by Alberta Geological Society.

Apennine Mountains, Italy, Turbidite, Tectonic and Gravity Transport, Northern. By John C.

2018

Review by J. V. Howell

| Application of Nuclear Explosives in Exploitation of Underground Resources. By Roland F. | |
|--|-------------|
| Herbst. Abstract | 1099 |
| of Resistivity Mapping to Upper Devonian Interreef Ireton Formation of Alberta. By | 1101 |
| R. G. McCrossan, Abstract | 434 |
| Arabian American Oil Company Staff. Ghawar Oil Field, Saudi Arabia Arbuckle Element and Ouachita Belt: Interpretation. Geological Note by Peter T. Flawn | 2012 |
| Ardmore Geological Society and Dallas Geological Society. The Geology of the Ouachita | 2012 |
| Mountains—A Symposium. Review by John Rodgers | 2019 |
| Are We Running Out of Oil? By George S. Buchanan | 1497 |
| Arizona, Northeastern, Guidebook of the Black Mesa Basin, by New Mexico Geological Soci- | |
| ety in Cooperation with Arizona Geological Society. Review by Martin Van Couvering | 697 |
| Arizona and Western New Mexico, Developments in 1958. By Harrell Budd | 1379 |
| Arizona, Northeastern, and Surrounding Areas, Paleozoic Stratigraphy of Black Mesa Basin. | |
| By Wolfgang E. Elston. Abstract | 1096 |
| Arizona, Southeastern, and Southwestern New Mexico, Geologic Controls in Oil and Gas Ex- | 1100 |
| ploration in. By Robert A. Zeller, Jr. Abstract | 1109 |
| Arizona Geological Society in Cooperation with New Mexico Geological Society. Guidebook of the Black Mesa Basin, Northeastern Arizona. Review by Martin Van Couvering | 697 |
| Arkansas and North Louisiana, Developments in 1958. By William L. Champion and Sankey | 091 |
| L. Blanton | 1322 |
| Arnal, Robert E., and Herbert Skolnick. Geological Note on Ventura Basin Edge Environment | 477 |
| Arnold, Ralph. Geological Note on Pseudo Evidences of Oil and Gas | 1058 |
| Arthur Young & Company. A.A.P.G. Financial Statement | 705 |
| S.E.P.M. Financial Statement | 709 |
| At Home and Abroad | |
| 267, 497, 696, 714, 718, 897, 904, 910, 922, 1088, 1109, 1115, 1494, 1790, 2279, 2534, 2739, | |
| Atchison, C. Hayden, et al. Delaware and Val Verde Basins, Texas-New Mexico. Abstract | 1777 |
| Atlantic Coastal States Between New Jersey and South Carolina, Developments in 1958. By Horace G. Richards | 1343 |
| Atwater, Gordon I. Arthur Carleton Trowbridge, Honorary Member | 1756 |
| Geology and Petroleum Development of Continental Shelf of Gulf of Mexico. Abstract | 1100 |
| 1776. | 2517 |
| Atwater, Gordon I., and McLain J. Forman. Discussion on Salt-Dome Breccia | 2725 |
| Nature of Growth of Southern Louisiana Salt Domes and Its Effect on Petroleum Ac- | |
| cumulation | 2592 |
| Aune, Q. A., and T. E. Gay, Jr. Geologic Reconnaissance of Alturas Area, Northeastern Cali- | |
| fornia. Abstract | 255 |
| Aurin, F. L. Everett Carpenter, Honorary Member | 1744 397 |
| Australia, Oil Exploration in. By P. E. Playford and M. H. Johnstone | 371 |
| and M. H. Johnstone | 2496 |
| Avery Island Salt Dome, Iberia Parish, Louisiana, Geology of. By Fred W. Bates, Robert R. | |
| Copeland, Jr., and Kenneth P. Dixon | 944 |
| Azad, J., et al. Major Gas Fields of West Pakistan. | 2675 |
| | |
| Baadsgaard, H., et al. Investigations in Radioactivity-Dating of Sediments | 654 |
| Bailey, Edgar H., and William P. Irwin. K-Feldspar Content of Jurassic and Cretaceous Gray- | 2505 |
| wackes of Northern Coast Ranges and Sacramento Valley, California | 2797 |
| Baker, Bruce L., and Gordon W. Hodgson. Geochemical Aspects of Petroleum Migration in Pembina, Redwater, Joffre, and Lloydminster Oil Fields of Alberta and Saskatchewan, | |
| Canada | 311 |
| Geological Note on Magnesium in Crude Oils of Western Canada | 472 |
| Baltz, Elmer H., Jr. Distribution and Facies of Pennsylvanian Rocks of Sangre de Cristo | |
| | 1093 |
| Banks, Joseph E. Geological Note on Limestone Conglomerates (Recent and Cretaceous) in | |
| | 2237 |
| | 1998 |
| Barlow, James A., Jr., et al. Stratigraphy and Conditions Governing Petroleum Occurrence in | 1098 |
| | 1098 |
| Basin-and-Range Structure Reflects Paleozoic Tectonics and Sedimentation. By Grant Steele. | 1071 |
| | 1105 |
| | 1266 |
| | |

| Bates, Fred W., Robert R. Copeland, Jr., and Kenneth P. Dixon. Geology of Avery Island Salt | |
|--|--------------|
| Dome, Iberia Dome, Louisiana | 944 |
| Bathymetry and Sediments of Bay of Campeche, Gulf of Mexico. By Joe S. Creager. Abstract | 1781 |
| Battan, Frank P., and Gene K. Koonce. Developments in East Texas in 1958. | 1293 |
| Bay Sainte Elaine Oil Field, Southern Louisiana. By Stephen J. Schneider | 2470 |
| Beaverhill Lake Formation, Swan Hills Area, Alberta, Geology of Devonian. By George Fong. | |
| Abstract | 1097 |
| Beebe, B. W. Report of Distinguished Lecture Committee | 1467 |
| Bell, Alfred H., and Jacob van den Berg. Developments in Illinois in 1958 | 1183 |
| Bell, W. C. Geological Note on Uniformitarianism—or Unconformity | 2862 |
| Bellshill Lake Field, Alberta. Geological Note by John C. Rudolph | 880 |
| Bellshill Lake—Thompson Lake Cretaceous Oil Fields, Alberta. By Ralph W. Edie. Abstract | 1095 |
| Belt, Ben C. Early Prospecting in West Texas Permian Basin (1919–1925). Abstract | 1772 |
| Bernard, H. A., C. F. Major, Jr., and B. S. Parrott. Galveston Barrier Island and Environs: | |
| Model for Predicting Reservoir Occurrence and Trend. Abstract | 2519 |
| Bick, Kenneth F. Geological Note on Stratigraphy of Deep Creek Mountains, Utah | 1064 |
| Big Snowy Group in Central Montana, Revision of. By Louis S. Gardner | 329 |
| Biostratigraphic and Paleoecologic Study of Midway Foraminifera Along Tehuacana Creek, | |
| Limestone County, Texas. By Gene Ross Kellough. Abstract | 2517 |
| Birdseye, Henry S. Ninth Annual Meeting, Rocky Mountain Section, Albuquerque, February | |
| 1–4, 1959 | 248 |
| Black Mesa Basin, Northeastern Arizona and Surrounding Areas, Paleozoic Stratigraphy of. | |
| By Wolfgang E. Elston. Abstract | 1096 |
| , Northeastern Arizona, Guidebook of the, by New Mexico Geological Society in Co- | |
| operation with Arizona Geological Society. Review by Martin Van Couvering | 697 |
| Blanpied, B. W. Exploratory Drilling in 1958 | 1117 |
| Report of Committee on Statistics of Exploratory Drilling | 1464 |
| | 2041 |
| Blanton, Sankey L., and William L. Champion. Developments in Arkansas and North Louisi- | |
| ana in 1958 | 1322 |
| Bolyard, Dudley W. Pennsylvanian and Permian Stratigraphy in Sangre de Cristo Mountains | 1000 |
| Between La Veta Pass and Westcliffe, Colorado | 1896 |
| Bond, B. C. Some Remaining Potentials of Northwest Colorado. Abstract | 1094 |
| Borchert, Hermann, Ozeane Salzlagerstätten, by; and Steinsalz und Kalisalze, by Franz Lötze. | 2072 |
| Review by Paul Weaver | 2872 |
| Boskydell Sandstone in Southwestern Illinois, Correlation of. Geological Note by George A. Desborough | 2720 |
| | |
| Boyd, Donald R., et al. Geological Note on Difunta Strata of Tertiary Age, Coahuila, Mexico | 2493 1754 |
| Brace, Orval L. William Taylor Thom, Jr., Honorary Member | 1/34 |
| Bradfield, H. H. Oil Accumulation Related to Geologic History of Muenster Arch and Associ- | 1775 |
| ated Basins in North Texas. Abstract | 1//3 |
| Bradley, W. H. Geological Note on Revision of Stratigraphic Nomenclature of Green River | 1072 |
| Formation of Wyoming | 1072 |
| Brainerd, Arthur Edward, Honorary Member. By Ben H. Parker | 1741 |
| Brankamp, Richard Allen, Memorial by James Terry Duce | 261 |
| Branham, Thomas, John Grayshon, and Robert Johnson. Upper Frio Lithofacies in Eastern Counties of Texas Gulf Coast. Abstract | 2514 |
| | |
| Brant, Ralph Allen. Memorial by Harold E. Enlows | 1788 |
| Braun, Theodor H., and George Y. Wheatley. New Approach to Dipmeter Computation. Ab- stract | 1095 |
| Brazer Dolomite (Mississippian), Randolph Quadrangle, Northeast Utah. By W. J. Sando, | 1093 |
| | 2741 |
| J. T. Dutro, Jr., and W. C. Gere | 2741 |
| Brehm, C. E. Report of Voluntary Research Fund Campaign Committee | 1476 258 |
| Bridge Pool of South Mountain Oil Field. By E. A. Hall and R. M. Grivetti. Abstract Briscoe, Glenn O. Review of Explorations East of the High Andes, by Victor Oppenheim | 1085 |
| | 60 |
| British Columbia, Cordilleran Tectonics in. By Wm. H. White | 00 |
| British Columbia and Alberta, Canada, Triassic Stratigraphy, Peace River Area. By A. D. Hunt and J. D. Ratcliffe | 563 |
| | 303 |
| British Columbia and Northwest Territories, 1845–1955, Annotated Bibliography of Geology | |
| of the Sedimentary Basin of Alberta and of Adjacent Parts of, by Alberta Geological | 2018 |
| Society. Review by J. V. Howell | 1304 |
| Diracy, a. D., Jr., and M. R. Lust. Developments in Opper Gun Coast of Texas in 1930 | T.JUE |

| Brod, I. O. Geology and Petroleum-Natural Gas Occurrences in the Eastern Foreland of the | |
|---|--------------|
| Caucasus, edited by. Review by Paul Weaver | 2873 |
| Brooks, S. A., et al. Geological Note on Pigeon Point Formation of Late Cretaceous Age, San Mateo County, California | 2855 |
| Brooks Ranch Oil Field, Natrona and Converse Counties, Wyoming. By Marvin A. Buskala. | 2000 |
| Abstract | 1095 |
| Brown, L. F., Jr. Discussion on Problems of Stratigraphic Nomenclature and Classification, | 2000 |
| Upper Pennsylvanian, North-Central Texas | 2866 1497 |
| Buchanan, George S. Are We Running Out of Oil? | 1439 |
| Budd, Harrell. Developments in Arizona and Western New Mexico in 1958 | 1379 |
| Budd, Harrell, and William V. Knight. Horseshoe-Gallup Field-Preliminary Report. Ab- | |
| stract | 1100 |
| Bulletin, Guide to the Preparation and Disposition of Manuscripts for Publication in the. By | 202 |
| Sherman A. Wengerd | 202 1406 |
| Burton, R. P. New Log Interpretation Techniques for Gulf Coast. Abstract | 2517 |
| Burton, Robert H., and John R. Dyer. Developments in Montana, North Dakota, and South | |
| Dakota in 1958 | 1345 |
| Burwash, R. A., and G. D. Garland. Geophysical and Petrological Study of Precambrian of | 200 |
| Central Alberta, Canada | 790 2829 |
| Busch, Daniel A. Prospecting for Stratigraphic Traps (Abstract, 1771) | 2029 |
| tract | 1095 |
| Bybee, Hal H. Report of Committee on Preservation of Samples and Cores | 1471 |
| Byrne, John V., Duane O. LeRoy, and Charles M. Riley. Chenier Plain and Its Stratigraphy, | |
| Southwestern Louisiana. Abstract | 2520 |
| California, East Gosford Oil Field, Kern County. By R. E. Horton. Abstract | 256 |
| Exposures of San Onofre Breccia on Anacapa Island. Geological Note by D. W. Scholl | 222 |
| , K-Feldspar Content of Jurassic and Cretaceous Graywackes of Northern Coast | 2 |
| Ranges and Sacramento Valley. By Edgar H. Bailey and William P. Irwin | 2797 |
| , Northeastern, Geologic Reconnaissance of Alturas Area. By T. E. Gay, Jr., and Q. A. | 255 |
| Aune. Abstract | 255 255 |
| , Olishore Oli, Present and Puture. By Francis J. Hortig. Abstract , Pigeon Point Formation of Late Cretaceous Age, San Mateo County. Geological Note | 233 |
| by C. A. Hall, Jr., D. L. Jones, and S. A. Brooks | 2855 |
| Cambrian Sandstones of Northern Michigan, by Wm Kenneth Hamblin. Review by Christina | |
| Lochman-Balk | 2503 |
| Campbell, Graham S., and D. A. Preston. Oil and Gas Developments in Utah and Nevada in 1958 | 1364 |
| Campeche, Gulf of Mexico, Bathymetry and Sediments of Bay of. By Joe S. Creager. Abstract | 1781 |
| Canada, Alberta and Saskatchewan, Geochemical Aspects of Petroleum Migration in Pembina, | 1101 |
| Redwater, Joffre, and Lloydminster Oil Fields of. By Gordon W. Hodgson and Bruce L. | |
| Baker | 311 |
| | 1419 |
| ——, Geophysical and Petrological Study of Precambrian of Central Alberta. By G. D. Garland and R. A. Burwash | 790 |
| , Middle Devonian Sedimentation and Oil Possibilities, Central Saskatchewan. By | 170 |
| Ralph W. Edie | 1026 |
| , New Upper Devonian Reef Producing Horizon, North-Central Alberta. By Alexander | |
| Clark. Abstract | 1780 |
| ——, Ordovician and Silurian Stratigraphy and Sedimentation in Southern Manitoba. By John M. Andrichuk | 2333 |
| Provost Gas Field, Alberta. By J. E. Renaud. Abstract | 1104 |
| | |
| By L. J. Martin | 2399 |
| , Structure and Accumulation of Hydrocarbons in Southern Foothills, Alberta. By | 002 |
| F. G. Fox | 992 |
| Hunt and J. D. Ratcliffe | 563 |
| , Western, Developments in 1958. By C. A. S. Bulmer | 1406 |
| | |

2907

Western, Magnesium in Crude Oils of, Geological Note by Bruce L. Baker and Gordon W. Hodgson 472 Canada and United States, List of Forthcoming Field Trips in. Geological Note by George H. 1991 Canadian Rockies, First-Order Nappe in. By G. G. L. Henderson and C. D. A. Dahlstrom 641 Cantrell, Ralph B., J. C. Montgomery, and A. E. Woodard. Heterostegina Reef on Piercement Salt Domes, with Special Reference to Nash and Others in Northwestern Brazoria County, Texas. Abstract Carpenter, Everett, Honorary Member, By F. L. Aurin 1744 Carpenter, G. L. Developments in Indiana in 1958 1191 Carsey, J. Ben. A.A.P.G. Research Grants-In-Aid . 2276 Report of Research Committee 1458 Carsola, Alfred J. Geological Note on Marine Lignite 676 Caucasus, Geology and Petroleum-Natural Gas Occurrences in the Eastern Foreland of the, edited by I. O. Brod. Review by Paul Weaver 2873 Cenozoic History, Gulf Coast. By J. D. M. Williamson. Abstract 2513 Challenge to Oil Exploration Management. By Maury M. Travis. Abstract 1781 Champion, William L., and Sankey L. Blanton. Developments in Arkansas and North Louisiana in 1958 Chazyan Series of Champlain Valley, New York and Vermont, and Its Reefs, Ordovician. By Philip Oxley and Marshall Kay 817 Chenier Plain and Its Stratigraphy, Southwestern Louisiana. By John V. Byrne, Duane O. LeRoy, and Charles M. Riley. Abstract 2520 Chenier Plain, Southwestern Louisiana, Geologic History of. By H. R. Gould and E. McFarlan, Jr. Abstract Chilingar, G. V. Geological Note on Effect of Sea Water on Properties of Liquid Hydrocarbons 2860 Chlorophyll Under Simulated Petroleum Source Rock Sedimentation Conditions, Primary Degradation of, By Gordon W. Hodgson and Brian Hitchon 2481 Christenson, Maynard G. Developments in Texas and Oklahoma Panhandles in 1958 Chronic, John, et al. Sedimentary Belts in Lagoon of Kapingamarangi Atoll . . . 501 Chubb, L. J. Upper Cretaceous of Central Chiapas, Mexico Civil Service Commission, Results of 1959 Nationwide Geology Examination Offered by United States. Geological Note by R. E. Van Alstine 2243 Claiborne in Jackson Area, Mississippi, Influence of Jackson Dome on Sedimentary Facies and 2516 Canada. Abstract . 1780 Clark, E. W. Petroleum Developments in South America and Caribbean Area in 1958 Clark, Frank Rinker, Honorary Member. By A. R. Denison 1747 Report of Headquarters Advisory Committee . 1472 Clark, G. C. Interior Salt Domes of Texas, Louisiana, and Mississippi. Abstract Clark, W. A., Jr., and Sidney A. Judson. Memorial of Dugald Gordon. Clayton, Robert N., and Egon T. Degens. Geological Note on Use of Carbon Isotope Analyses 911 of Carbonates for Differentiating Fresh-Water and Marine Sediments . 890 Coast Ranges, Northern, and Sacramento Valley, California, K-Feldspar Content of Jurassic and Cretaceous Graywackes of. By Edgar H. Bailey and William P. Irwin Cobban, W. A. Memorial of John Bernard Reeside, Jr. 2530 Cobban, W. A., C. E. Erdmann, R. W. Lemke, and E. K. Maughan. Revision of Colorado Group on Sweetgrass Arch, Montana 2786 Cobban, W. A., et al. Pierre Shale Along Western and Northern Flanks of Black Hills, Wyoming and Montana 101 Cobourg Limestone in Northwestern New York and Southern Ontario, Statistical Analysis of Regional Facies Change in Ordovician. By L. Lippitt 807 Cohee, George V. Report of Tectonic Map Committee 1474 Colorado Basin, Marine Redbeds in Central. By Theodore R. Walker, Abstract Colorado, Fossiliferous Marine Redbeds in Minturn Formation (Des Moines) Near McCoy, Colorado. Geological Note by Theodore R. Walker 1069 Group on Sweetgrass Arch, Montana, Revision of. By W. A. Cobban, C. E. Erdmann, R. W. Lemke, and E. K. Maughan . 2786 Northwest, Some Remaining Potentials of. By B. C. Bond. Abstract 1094

—, Pennsylvanian and Permian Stratigraphy in Sangre de Cristo Mountains Between La Veta Pass and Westcliffe. By Dudley W. Bolyard

| , Plateau, Stratigraphic Relations of Hoskinnini Member (Triassic?) of Moenkopi Formation on. By John H. Stewart | 1852 |
|---|--------------|
| , Relations of Lower Cretaceous and Upper Jurassic Rocks, Four Corners Area. By | 190 |
| E. B. Ekren and F. N. Houser Rocky Mountain Association of Geologists Symposium on Pennsylvanian Rocks of. | |
| , Structural Control Related to Stratigraphic Traps, Piceance Creek Basin. By V. E. | , 1779 |
| Peterson. Abstract. Colorado and Utah, Moenkopi Formation (Triassic? and Triassic) in Salt Anticline Region. | 1102 |
| By Eugene M. Shoemaker and William L. Newman | 1835 1370 |
| Colorado and Western Nebraska, Developments in 1958. By Vail Kinsey Colton, George W., and Wallace de Witt, Jr. Revised Correlations of Lower Upper Devonian | |
| Rocks in Western and Central New York | 2810 273 |
| Complex Entrapment at Sage Creek Field, Big Horn Basin, Wyoming. By N. C. Elmer. Abstract | 1096 |
| Composite Interpretive Method of Logging Drill Cuttings, by John C. Maher. Review by | 2784 |
| Louis H. Lukert | |
| Triassic Rocks of, By Richard K. Hose and Charles A. Repenning | 2167 499 |
| Conselman, Frank B. Distinguished Lecture Tour | 1477 |
| Conservation of Oil and Gas and Its Relation to Exploration. By William J. Murray, Jr. Abstract | 1768 |
| Continental Sediments of Miocene Age in Puget Sound Lowland, Washington. Geological Note | |
| by D. R. Mullineaux, L. M. Gard, and D. R. Crandell | 688 974 |
| Continental Slope Off Southwest Florida. By G. F. Jordan and H. B. Stewart, Jr. Copeland, Robert R., Jr., et al. Geology of Avery Island Salt Dome, Iberia Parish, Louisiana | 944 |
| Cordilleran Tectonics in British Columbia. By Wm. H. White | 60 |
| Core Examination. By John Nesbitt. Abstract | 1102 |
| Corona South Quadrangle, Geology of. By Cliffton H. Gray, Jr. Abstract | 254 |
| Petersen Correlation of Boskydell Sandstone in Southwestern Illinois. Geological Note by George A. | 2016 |
| Desborough | 2720 |
| Cost of Finding Oil. By R. E. Megill. Abstract. Crandell, D. R., et al. Geological Note on Continental Sediments of Miocene Age in Puget | 1767 |
| Sound Lowland, Washington | 688 1781 |
| Creager, Joe S. Bathymetry and Sedments of Bay of Campetile, Out of Mexico. Asstract Cretaceous Graywackes of Northern Coast Ranges and Sacramento Valley, California, K- Feldspar Content of Jurassic and. By Edgar H. Bailey and William P. Irwin | 2797 |
| Cretaceous, Late, Age, San Mateo County, California, Pigeon Point Formation of Geological | 2171 |
| Note by C. A. Hall, Jr., D. L. Jones, and S. A. Brooks | 2873 |
| By Ralph W. Imlay, Hollis M. Dole, Francis G. Wells, and Dallas Peck | 2770 |
| , Lower, of Southern Alberta and Adjoining Areas. By R. Perry Glaister | 590 |
| , Lower, Rocks, Rocky Mountain Region, Stratigraphy and Conditions Governing Petroleum Occurrence in. By John D. Haun, James A. Barlow, Jr., and C. R. Hammond. | |
| Abstract | 1098 |
| — Oil Fields, Alberta, Bellshill Lake—Thompson Lake. By Ralph W. Edie. Abstract . | 1095 |
| ——, Upper, of Central Chiapas, Mexico. By L. J. Chubb. (Cretaceous and Recent) in Southern Florida, Limestone Conglomerates. Geological Note by | 725 |
| Joseph E. Banks | 2237 |
| By E. B. Ekren and F. N. Houser | 190 |
| Cross, R. K. Review of Cuyama Oil Province. Abstract | 259 |
| Crowell, John C. Problems of Fault Nomenclature. | 2653 |
| Cuyama Oil Province, Review of. By R. K. Cross. Abstract | 259 |
| Dahlstrom, C. D. A., and G. G. L. Henderson. First-Order Nappe in Canadian Rockies | 641 |
| Dahm, John N. Desert Springs Gas Field, Sweetwater County, Wyoming. Abstract | 1095 |
| Dakota Stratigraphy in San Juan Basin. By Willis W. Tyrrell, Jr. Abstract | 1107 |

| Dallas Geological Society, Sponsored by. Announcement of Annual Meetings, A.A.P.GS.E.P.M. Dallas, Texas, March 16-19, 1959. By W. Dow Hamm | 269 |
|--|--------------|
| Dallas Geological and Geophysical Societies. Geology and Geophysics of Cooke-Grayson Counties, Texas. Review by Geraldine W. Werdig and Sherman A. Wengerd | 485 |
| Dallas Geological Society and Ardmore Geological Society. The Geology of the Ouachita Mountains—A Symposium, Review by John Rodgers | 2019 |
| Danehy, E. A. Post-Miocene Sedimentation and Possibilities of Oil and Saline Minerals in Newberry Basin, Mojave Desert. Abstract | 256 |
| Dapples, E. C. Interpreting Diagenetic History of Sandstones. Abstract | 1765 |
| Davie, Thomas Earl. Memorial by John P. Thompson | 2524 |
| Davis, Donald M. Geology of Vallecitos Area. Abstract | 253 |
| Davis, I. G. Memorial of Philip Edward Nolan | 917 |
| Decker, Charles Elijah. Memorial by V. E. Monnett | 263 |
| Deep Creek Mountains, Utah, Stratigraphy of. Geological Note by Kenneth F. Bick. Degens, Egon T., and Robert N. Clayton. Geological Note on Use of Carbon Isotope Analyses of Carbonates for Differentiating Fresh-Water and Marine Sediments | 1064 |
| Deiss, Charles Frederick. Memorial by John B. Patton | 2525 |
| Delaware and Val Verde Basins, Texas-New Mexico. By C. D. Vertrees, Glen Egans, and C. Hayden Atchison. Abstract | 1777 |
| Dempsey, W. J., et al. Regional Geologic Interpretations of Aeromagnetic Profiles of Selected Areas in Alaska. Abstract | 260 |
| Denison, A. R. Frank Rinker Clark, Honorary Member | 1747 |
| Desborough, George A. Geological Note on Correlation of Boskydell Sandstone in South- | |
| western Illinois. | 2720 |
| Deschner, H. W., et al. Developments in South Texas in 1958 | 1283 |
| Desert Springs Gas Field, Sweetwater County, Wyoming. By John N. Dahm. Abstract | 1095 |
| Determination of Chloride in Water from Core Samples. Geological Note by Wolfgang V. | 1005 |
| Swarzenski . Developments in Africa in 1958, Petroleum. By Hollis D. Hedberg, John D. Moody, and | 1995 |
| Louis C. Sass | 1625 |
| in Alaska in 1958. By H. Mann | 1427 |
| — in Arizona and Western New Mexico in 1958. By Harrell Budd | 1379 |
| Blanton | 1322 |
| in Atlantic Coastal States Between New Jersey and South Carolina in 1958. By | 1022 |
| Horace G. Richards | 1343 |
| in Colorado and Western Nebraska in 1958. By Vail Kinsey | 1370 |
| in Eastern Canada in 1958. By D. Jardine and B. V. Sanford | 1419 |
| in East Texas in 1958. By Gene K. Koonce and Frank P. Battan | 1293 |
| in Europe in 1958, Petroleum. By Robert E. King | 1581 |
| in Far East in 1958, Petroleum. By Godfrey F. Kaufmann | 1714 |
| in Illinois in 1958. By Alfred H. Bell and Jacob van den Berg | 1183 |
| in Indiana in 1958. By G. L. Carpenter | 1191 1173 |
| in Louisiana Gulf Coast in 1958. By Donald E. Hyer and Warren Latshaw | 1312 |
| in Mexico in 1958, Petroleum, By Eduardo J. Guzmán | 1505 |
| in Michigan in 1958. By R. E. Ives and G. D. Ells | 1197 |
| in Middle East and Adjacent Countries in 1958, Petroleum. By Henry Hotchkiss | 1676 |
| - in Montana, North Dakota, and South Dakota in 1958. By John R. Dyer and Robert | |
| H. Burton | 1345 |
| in New York in 1958, Gas and Oil. By W. Lynn Kreidler | 1139 |
| in North Mid-Continent in 1958. By George Q. Williams | 1208 |
| —— in North Texas in 1958. By J. H. Bass | 1266 |
| | 1161 |
| | 1161 |
| | 1221 |
| | 1144 1518 |
| | 1331 |
| in South Texas in 1958. By J. M. Matthews, H. H. Felsted, and H. W. Deschner | 1283 |
| | 1181 |
| | 1235 |
| | |

| — in Upper Gulf Coast of Texas in 1958. By A. D. Brixey, Jr., and M. R. Yust in Utah and Nevada in 1958, Oil and Gas. By D. A. Preston and Graham S. Campbell | 1304 1364 |
|---|--------------|
| in West-Central Texas in 1958. By R. P. Norris | 1276 |
| in West Coast Area in 1958. By H. L. Popenoe | 1389 |
| in Western Canada in 1958. By C. A. S. Bulmer | 1406 |
| in West Texas and Southeastern New Mexico in 1958. By Bernold M. Hanson et al. in West Virginia in 1958, Oil and Gas. By R. C. Tucker. | 1248 1169 |
| in Wyoming and Idaho in 1958. By Eugene C. Eaton | 1356 |
| Devonian Beaverhill Lake Formation, Swan Hills Area, Alberta, Geology of. By George Fong. | |
| Abstract | 1097 |
| Devonian, Lower Upper, Rocks in Western and Central New York, Revised Correlations of. By Wallace de Witt, Jr., and George W. Colton | 2810 |
| , Middle, Sedimentation and Oil Possibilities, Central Saskatchewan, Canada. By Ralph W. Edie | 1026 |
| , Upper, Interreef Ireton Formation of Alberta, Application of Resistivity Mapping to. | 1020 |
| By R. G. McCrossan. Abstract | 1101 |
| Upper, Reef Producing Horizon, New, North-Central Alberta, Canada. By Alexander | 1790 |
| Clark. Abstract de Witt, Wallace, Jr., and George W. Colton. Revised Correlations of Lower Upper Devonian | 1780 |
| Rocks in Western and Central New York | 2810 |
| Diagenesis and Paragenesis in Limestones and Dolomites. By W. A. Waldschmidt. Abstract | 1766 |
| Diagenesis of Reef Limestones. By Alfred G. Fischer. Abstract Díaz G., Teodoro, and Peter T. Flawn. Geological Note on Problems of Paleozoic Tectonics in | 1766 |
| North-Central and Northeastern Mexico | 224 |
| Díaz G., Teodoro, et al. Age and Correlation of Huizachal Group (Mesozoic), State of Ta- | |
| maulipas, Mexico (Addendum, 2499) | 757 |
| Dickey, Parke A., and A. L. Kidwell. Origin of Oil. Abstract Difunta Strata of Tertiary Age, Coahuila, Mexico. Geological Note by Grover E. Murray, | 1769 |
| James A. Wolleben, and Donald R. Boyd | 2493 |
| Dipmeter Computation, New Approach to. By Theodor H. Braun and George Y. Wheatley. | 400# |
| Abstract Distribution and Ecology of Foraminifera from East Mississippi Delta Margin. By Robert R. | 1095 |
| Lankford | 2068 |
| and Facies of Pennsylvanian Rocks of Sangre de Cristo Mountains and Raton Basin, | |
| New Mexico. By Elmer H. Baltz, Jr. Abstract | 1093 |
| Dixon, Kenneth P., et al. Geology of Avery Island Salt Dome, Iberia Parish, Louisiana Dole, Hollis M., et al. Relations of Certain Upper Jurassic and Lower Cretaceous Formations | 944 |
| in Southwestern Oregon | 2770 |
| Dott, R. H., et al. Report of Committee on Special Volume of Pennsylvanian of United States | 1474 |
| Dual Classification of Faults. Geological Note by Mason L. Hill. | 217 |
| Duce, James Terry. Memorial of Richard Allen Bramkamp. Dunlap, R. C., Jr., and Fred J. Agnich. Standards of Performance in Exploration. Abstract | 261 1773 |
| Dutro, J. T., Jr., et al. Brazer Dolomite (Mississippian), Randolph Quadrangle, Northeast | 1110 |
| Utah | 2741 |
| Dyer, John R., and Robert H. Burton. Developments in Montana, North Dakota, and South Dakota in 1958 | 1345 |
| Dakota III 1936 | 1343 |
| Eargle, D. Hoye. Stratigraphy of Jackson Group (Eocene), South-Central Texas | 2623 |
| Early Prospecting in West Texas Permian Basin (1919–1925). By Ben C. Belt. Abstract | 1772 |
| East Gosford Oil Field, Kern County, California. By R. E. Horton. Abstract | 256 |
| Eaton, Eugene C. Developments in Wyoming and Idaho in 1958 | 1356 |
| Edie, Ralph W. Bellshill Lake—Thompson Lake Cretaceous Oil Fields, Alberta. Abstract | 1095 |
| | 1758 |
| ————. Middle Devonian Sedimentation and Oil Possibilities, Central Saskatchewan, Canada Edmonton Reef Chain, Central Alberta, Geometry of Oil and Gas Accumulations Associated | 1026 |
| | 1098 |
| | 1771 |
| Edwards, G., et al. Investigations in Radioactivity-Dating of Sediments | 654 |
| Effect of Sea Water on Properties of Liquid Hydrocarbons. Geological Note by G. V. Chilingar Effect of Structural Movement of Sedimentation in Pheasant-Francitas Area, Matagorda and | 2860 |
| Jackson Counties, Texas. By John E. Walters. Abstract. | 2514 |
| gans, Glen, et al. Delaware and Val Verde Basins, Texas-New Mexico. Abstract | 1777 |

| Ekren, E. B., and F. N. Houser. Relations of Lower Cretaceous and Upper Jurassic Rocks, | |
|--|------|
| Four Corners Area, Colorado | 190 |
| Ellison, Samuel P., Jr. Geological Note by Miniature Recorder: New Geological Tool | 2008 |
| Ellisor, Alva C. Review of the Frio Formation of the Upper Gulf Coast of Texas, by the | |
| Houston Geological Society Study Group | 2245 |
| Ells, G. D., and R. E. Ives. Developments in Michigan in 1958 | 1197 |
| Elmer, N. C. Complex Entrapment at Sage Creek Field, Big Horn Basin, Wyoming. Abstract | 1096 |
| Elston, Wolfgang E. Paleozoic Stratigraphy of Black Mesa Basin, Northeastern Arizona and | |
| Surrounding Areas. Abstract | 1096 |
| Emery, Wilson B. Memorial of Robert Gourdin Kurtz | 915 |
| Enlows, Harold E. Memorial of Ralph Allen Brant | 1788 |
| Eocene Gorge in Northern Sacramento Valley. By J. D. Frick, T. P. Harding, and A. W. | |
| Marianos. Abstract | 255 |
| Erdmann, C. E., et al. Revision of Colorado Group on Sweetgrass Arch, Montana | 2786 |
| Erosional Channel in Middle Wilcox Near Yoakum, Lavaca County, Texas. By William V. | |
| Hoyt. Abstract. | 2515 |
| Europe, Petroleum Developments in 1958. By Robert E. King | 1581 |
| Evans, J. R. Geology of Mescal Range. Abstract | 253 |
| Examples of Hydrodynamics in Williston Basin at Poplar and North Tioga Fields. By | |
| George H. Murry, Jr. Abstract | 1102 |
| Explorations East of the High Andes, by Victor Oppenheim. Review by Glenn O. Briscoe | 1085 |
| Exploratory Drilling in 1958. By B. W. Blanpied | 1117 |
| Exposures of San Onofre Breccia on Anacapa Island, California. Geological Note by D. W. | |
| Scholl | 222 |
| | |
| Facies of Mesaverde Formation, East-Central Wyoming, By John R. Barwin, Abstract . | 1094 |
| Facies Relationships in Mississippian of Williston Basin and Their Effects Upon Fluid Migra- | |
| tion. By Clement B. Thames, Jr. Abstract | 1106 |
| Falcon, N. L. Position of Oil Fields of Southwest Iran with Respect to Relevant Sedimentary | |
| Basins. Correction | 484 |
| Fanshawe, John R., and Herbert D. Hadley. Memorial of John Timothy Mullen, Jr. | 2278 |
| Far East, Petroleum Developments in 1958. By Godfrey F. Kaufmann | 1714 |
| Felsted, H. H., et al. Developments in South Texas in 1958 | 1283 |
| Fentress, George H. List of Forthcoming Field Trips in United States and Canada | 1991 |
| | 1477 |
| | 1096 |
| Field Conference Organization. Geological Note by Field Trip Research and Coordination | |
| Committee, A.A.P.G. | 1978 |
| Field Trips in United States and Canada, List of Forthcoming. By George H. Fentress . 718, | 1991 |
| Fifth World Petroleum Congress, New York City, May 31-June 5, 1959, A.A.P.G. at. By | |
| | 2509 |
| Financing of Future Exploratory Companies. By R. G. Greene, Abstract | 255 |
| First-Order Nappe in Canadian Rockies, By G. G. L. Henderson and C. D. A. Dahlstrom | 641 |
| | 1766 |
| Fish, Andrew R., and John C. Kinard. Madison Group Stratigraphy and Nomenclature in | |
| | 1097 |
| | 1769 |
| | 1463 |
| Fitzgerald, Thomas J., Vernon L. King, and Earl B. Noble. Memorial of William Darwin | |
| | 2890 |
| Flawn, Peter T. Report of Basement Rocks Project Committee | 1474 |
| | 2012 |
| Flawn, Peter T., and Teodoro Díaz G. Geological Note on Problems of Paleozoic Tectonics in | |
| North-Central and Northeastern Mexico | 224 |
| | 2844 |
| Southern, Limestone Conglomerates (Recent and Cretaceous) in Geological Note | |
| | 2237 |
| ——, Southwest, Continental Slope Off. By G. F. Jordan and H. B. Stewart, Jr. | 974 |
| | 1161 |
| Folk, Robert L. Practical Petrographic Classification of Limestones | 1 |
| Fong, George. Geology of Devonian Beaverhill Lake Formation, Swan Hills Area, Alberta. | 2 |
| A 1 - 4 4 | 1097 |
| Abstract | 5000 |

| Forman, McLain J., and Gordon I. Atwater. Discussion on Salt-Dome Breccia | 272 |
|---|--------------|
| Accumulation . Forney, L. Bruce, Chairman, Houston Geological Society Study Group. Frio Formation of Up- | 2592 |
| per Texas Gulf Coast. Abstract | 2513 |
| Fossiliferous Marine Redbeds in Minturn Formation (Des Moines) Near McCoy, Colorado, Geological Note by Theodore R. Walker | 1069 |
| Foster, Donald I. Oil Potential of Minnelusa Formation, Powder River Basin, Wyoming. Abstract | 1097 |
| Four Corners Area, Colorado, Relations of Lower Cretaceous and Upper Jurassic Rocks. By E. B. Ekren and F. N. Houser | 190 |
| Four Corners Region, Mississippian of. By Dix R. Turnbow. Abstract | 1106 2214 |
| Wengerd. Abstract Fox, F. G. Structure and Accumulation of Hydrocarbons in Southern Foothills, Alberta, | 1778 |
| Canada | 992 1099 |
| Valley, Abstract Frio Formation of the Upper Gulf Coast of Texas, by Houston Geological Society Study Group, Review by Alva C. Ellisor | 255 |
| of Upper Texas Gulf Coast. By L. Bruce Forney, Chairman, Houston Geological | |
| Society Study Group. Abstract Frio Trend, Log Interpretation in Brackish-Water. By Terry Walker. Abstract Frio, Upper, Lithofacies in Eastern Counties of Texas Gulf Coast. By Thomas Branham, | 2513 2515 |
| John Grayshon, and Robert Johnson. Abstract Frio and Anahuac Formations of Northeastern Mexico, Petroleum Geology of. By Lauro A. Yzaguirre. Abstract | 2514 1775 |
| Fuller, J. G. C. M., and J. W. Porter. Lower Paleozoic Rocks of Northern Williston Basin and Adjacent Areas Fulmer, Charles V. Memorial of Charles Edwin Weaver | 124 1110 |
| | 1110 |
| Gard, L. M., et al. Geological Note on Continental Sediments of Miocene Age in Puget Sound | 2519 |
| Lowland, Washington Gardner, Louis S. Revision of Big Snowy Group in Central Montana Garland, G. D., and R. A. Burwash. Geophysical and Petrological Study of Precambrian of | 688 329 |
| Central Alberta, Canada | 790 1139 |
| Gay, T. E., Jr., and Q. A. Aune. Geologic Reconnaissance of Alturas Area, Northeastern California, Abstract | 255 |
| Genesis of "Haymond Boulder Beds," Marathon Basin, West Texas. Discussion by W. Ellis Hall | 238 |
| Geochemical Aspects of Petroleum Migration in Pembina, Redwater, Joffre, and Lloyd- minster Oil Fields of Alberta and Saskatchewan, Canada. By Gordon W. Hodgson and | |
| Bruce L. Baker Geochemical Methods of Prospecting and Exploration for Petroleum and Natural Gas, by Kartsev, Tabasaranskii, and Mogilevskii. Review by R. D. McIver | 311 2726 |
| Geologic Architecture of Circum-Pacific, By Lewis G. Weeks Geologic Atlas of Utah, Cache County, by J. Stewart Williams. Review by Martin Van Couvering | 350 898 |
| Geologic Case History of Slocum Dome, Anderson County, Texas. By John L. Read, Jr. Geologic Controls in Oil and Gas Exploration in Southwestern New Mexico and Southeastern | 958 |
| Arizona. By Robert A. Zeller, Jr. Abstract. Geologic Cross Sections Sponsored by Geological Societies Affiliated or Cooperating with American Association of Petroleum Geologists During 1958. Geological Note by W. L. | 1109 |
| Adkison Geologic History of Chenier Plain, Southwestern Louisiana. By H. R. Gould and E. Mc- | 1733 |
| Farlan, Jr. Abstract . Geologic Reconnaissance of Alturas Area, Northeastern California. By T. E. Gay, Jr., and | 2520 |
| Q. A. Aune. Abstract | 255 |

| Geological Highway Map of Texas, Compiled by Philip F. Oetking. Review by E. H. Rain- | |
|---|--------------|
| water | 2020 |
| Geological Research Developments. By Harold N. Fisk. Abstract Geology, a Geophysical Tool. By E. V. McCollum | 1769 1503 |
| Examination Offered by United States Civil Service Commission, Results of 1959 | 1300 |
| Nationwide. Geological Note by R. E. Van Alstine | 2243 |
| , Industry and Geological Agencies Evaluate a Curriculum in. Geological Note by | |
| Paul Dean Proctor | 2228 |
| — of Avery Island Salt Dome, Iberia Parish, Louisiana. By Fred W. Bates, Robert R. Copeland, Jr., and Kenneth P. Dixon | 944 |
| of Corona South Quadrangle. By Clifton H. Gray, Jr. Abstract | 254 |
| of Devonian Beaverhill Lake Formation, Swan Hills Area, Alberta. By George Fong. | 20, |
| Abstract | 1097 |
| of Mescal Range. By J. R. Evans. Abstract | 253 |
| of North Tejon Field. By William H. LeRoy and George N. Yeckl. Abstract of Northwest Ten Section. By N. H. MacKevett. Abstract | 252 257 |
| of the Ouachita Mountains—A Symposium, by Dallas Geological Society and Ardmore | 231 |
| Geological Society. Review by John Rodgers | 2019 |
| of Vallecitos Area. By Donald M. Davis. Abstract | 253 |
| , Survey of College Students Majoring in. By American Geological Institute | 1079 |
| Geology and Geophysics of Cooke-Grayson Counties, Texas, by Dallas Geological and Geophysical Societies. Review by Geraldine W. Werdig and Sherman A. Wengerd | 485 |
| Geology and Oil in Ventura Basin East of San Gabriel Fault. By Otto Hackel and Roy W. | 100 |
| Turner, Abstract | 254 |
| Geology and Petroleum Development of Continental Shelf of Gulf of Mexico. By Gordon I. | ~~~~ |
| Atwater. Abstract | , 2517 |
| edited by I. O. Brod. Review by Paul Weaver | 2873 |
| Geophysical Exploration in Northern Alaska. By John R. Woolson. Abstract. | 260 |
| Geophysical and Petrological Study of Precambrian of Central Alberta, Canada. By G. D. | |
| Garland and R. A. Burwash | 790 |
| Geophysics, Geology, and Economics in Deep Fields. By Paul Weaver. Abstract | 1774 2741 |
| Ghawar Oil Field, Saudi Arabia. By Arabian American Oil Company Staff | 434 |
| Gilliland, William N. Geological Note on Special Publications and Guidebooks Published in | 20.2 |
| 1958 by Societies Affiliated or Cooperating with American Association of Petroleum | |
| Geologists | 1735 |
| Gish, Wesley G. Memorial of Harry Hackett Nowlan | 2528 590 |
| Goheen, Hunter C. Sedimentation and Structure of <i>Planulina</i> -Abbeville Trend, South Louisi- | 570 |
| ana. Abstract | 2518 |
| Godich, S. S., H. Baadsgaard, G. Edwards, and C. E. Weaver. Investigations in Radioactivity- | |
| Dating of Sediments | 654 911 |
| Gouin, Frank. Report of Boy Scout Committee | 1469 |
| Gould, H. R., and E. McFarlan, Jr. Geologic History of Chenier Plain, Southwestern Louisi- | |
| ana. Abstract | 2520 |
| Grandison Complex, Lafourche and Jefferson Parishes, Louisiana. By Ramsey L. Oakes. Ab- | 2510 |
| stract Gray, Clifton H., Jr. Geology of Corona South Quadrangle. Abstract | 2518 254 |
| Grayshon, John, et al. Upper Frio Lithofacies in Eastern Counties of Texas Gulf Coast. Ab- | 20% |
| stract | 2514 |
| Green River Formation of Wyoming, Revision of Stratigraphic Nomenclature of. Geological | ***** |
| Note by W. H. Bradley Greene, R. G. Financing of Future Exploratory Companies. Abstract | 1072 255 |
| Griggs, R. L., and C. B. Read. Geological Note on Revisions in Stratigraphic Nomenclature in | 200 |
| Tucumcari-Sabinoso Area, Northeastern New Mexico | 2003 |
| Grivetti, R. M., and E. A. Hall. Bridge Pool of South Mountain Oil Field. Abstract | 258 |
| Guide to the Preparation and Disposition of Manuscripts for Publication in the Bulletin. By | 202 |
| Sherman A. Wengerd | 202 |
| in Cooperation with Arizona Geological Society. Review by Martin Van Couvering | 697 |
| Gulf Coast Cenozoic History, By J. D. M. Williamson, Abstract | 2513 |

| Gulf Coast, Frio Formation of Upper Texas. By L. Bruce Forney, Chairman, Houston Geo- | |
|---|------|
| logical Society Study Group. Abstract | 2513 |
| , New Log Interpretation Techniques for. By R. P. Burton. Abstract | 2517 |
| , Nodosaria Sand Environments in Eastern Counties of Texas. By James A. Mallory. | |
| Abstract | 2514 |
| ———, Northern, Size, Sorting, Mineralogy, and Chemical Composition of Recent Sands of. | |
| By K. Jinghwa Hsu. Abstract | 2520 |
| , Upper Frio Lithofacies in Eastern Counties of Texas. By Thomas Branham, John | |
| Grayshon, and Robert Johnson. Abstract | 2514 |
| Gulf Coast Regional Meeting, Joint, Houston, November 11-13, 1959, Abstracts | 2511 |
| Gulf of Mexico, Bathymetry and Sediments of Bay of Campeche. By Joe S. Creager. Abstract | 1781 |
| , Geology and Petroleum Development of Continental Shelf of. By Gordon I. Atwater. | |
| Abstract | 2517 |
| Guzmán, Eduardo J. Petroleum Developments in Mexico in 1958 | 1505 |
| Gwinn, James William, Recipient of Matson Award | 1760 |
| | |
| Hackel, Otto, and Roy W. Turner. Geology and Oil in Ventura Basin East of San Gabriel | |
| Fault, Abstract | 254 |
| Hadley, Herbert D., and John R. Fanshawe. Memorial of John Timothy Mullen, Jr. | 2278 |
| Halbouty, Michel T. Research Contributions—The \$1,000 Club. | 2279 |
| ——. The Research Fund | 2893 |
| Halepeska, Dennis Leonard, Memorial by Richard L. Vaughn | 913 |
| Hall, C. A., Jr., D. L. Jones, and S. A. Brooks. Geological Note on Pigeon Point Formation of | |
| Late Cretaceous Age, San Mateo County, California | 2855 |
| Hall, E. A., and R. M. Grivetti. Bridge Pool of South Mountain Oil Field. Abstract | 258 |
| Hall, W. Ellis. Discussion of Genesis of "Haymond Boulder Beds," Marathon Basin, West | |
| Texas | 238 |
| Hamblin, Wm. Kenneth. The Cambrian Sandstones of Northern Michigan. Review by Chris- | |
| tina Lochman-Balk | 2503 |
| Hamm, W. Dow. Announcement of Annual Meetings, A.A.P.GS.E.P.M. Dallas, Texas, | |
| March 16-19, 1959. Sponsored by Dallas Geological Society | 269 |
| Hammond, C. R., et al. Stratigraphy and Conditions Governing Petroleum Occurrence in | |
| Lower Cretaceous Rocks, Rocky Mountain Region. Abstract | 1098 |
| Hanson, Bernold M., et al. Developments in West Texas and Southeastern New Mexico in 1958 | 1248 |
| Hardin, Frank R. Thornwell Field, Jefferson Davis and Cameron Parishes, Louisiana. Abstract | 2518 |
| Harding, T. P., et al. Eocene Gorge in Northern Sacramento Valley. Abstract | 255 |
| Harris, H. D. Late Mesozoic Positive Area in Western Utah (Abstract, 252) | 2636 |
| Harvill, Lee L. Petrology of Anacacho Limestone of Southwest Texas. Abstract | 2521 |
| Haun, John D., James A. Barlow, Jr., and C. R. Hammond. Stratigraphy and Conditions | 2021 |
| Governing Petroleum Occurrence in Lower Cretaceous Rocks, Rocky Mountain Region. | |
| Abstract | 1098 |
| Haworth, A. John. A.A.P.G. at Fifth World Petroleum Congress, New York City, May 33- | 2070 |
| June 5, 1959 | 2509 |
| Haworth, A. John, and Howard A. Meyerhoff. Report of Representatives on Council of Ameri- | 2002 |
| can Association for Advancement of Science | 1456 |
| Hayes, Philip T. San Andres Limestone and Related Permian Rocks in Last Chance Canyon | |
| and Vicinity, Southeastern New Mexico | 2197 |
| "Haymond Boulder Beds," Marathon Basin, West Texas, Genesis of. Discussion by W. Ellis | 2171 |
| Hall | 238 |
| Hedberg, Hollis D., John D. Moody, and Louis C. Sass. Petroleum Developments in Africa in | 200 |
| 1958 | 1625 |
| Hedberg, Hollis D., et al. Report of Trustees of Research Fund | 1458 |
| Henderson, G. G. L., and C. D. A. Dahlstrom. First-Order Nappe in Canadian Rockies | 641 |
| Hendricks, Thomas A. Structure of the Frontal Belt of Quachita Mountains. Abstract | 1778 |
| Herbaly, E. L. Geometry of Oil and Gas Accumulations Associated with Edmonton Reef | 1110 |
| Chain, Central Alberta. Abstract | 1098 |
| Herbst, Roland F. Application of Nuclear Explosives in Exploitation of Underground Re- | 2020 |
| sources. Abstract | 1099 |
| Heterostegina Reef on Piercement Salt Domes, with Special Reference to Nash and Others in | |
| Northwestern Brazoria County, Texas. By Ralph B. Cantrell, J. C. Montgomery, and | |
| A. E. Woodard. Abstract | 2515 |
| Hiestand, Thomas C. Distinguished Lecture Tour | 2539 |
| Hill, Gilman A. Distinguished Lecture Tour | 2740 |
| Oil Migration, Abstract | 1770 |

2915

Hill, Mason L. Geological Note on Dual Classification of Faults . 217 Hitchcock Field, Galveston County, Texas, Review of. By Jesse O. Reiter, Abstract. 2515 Hitchon, Brian, and Gordon W. Hodgson. Primary Degradation of Chlorophyll Under Simulated Petroleum Source Rock Sedimentation Conditions 2481 Hodgson, Gordon W., and Brian Hitchon. Primary Degradation of Chlorophyll Under Simulated Petroleum Source Rock Sedimentation Conditions 2481 Hodgson, Gordon W., and Bruce L. Baker. Geochemical Aspects of Petroleum Migration in Pembina, Redwater, Joffre, and Lloydminster Oil Fields of Alberta and Saskatchewan, 311 Canada . Geological Note on Magnesium in Crude Oils of Western Canada 472 Hodgson, W. D., and Rufus J. LeBlanc. Origin and Development of Texas Shoreline. Abstract 2519 Horseshoe-Gallup Field-Preliminary Report. By William V. Knight and Harrell Budd. Ab-1100 Hortig, Francis J. California Offshore Oil, Present and Future. Abstract 255 Horton, R. E. East Gosford Oil Field, Kern County, California. Abstract 256 Hose, Richard K., and Charles A. Repenning. Stratigraphy of Pennsylvanian, Permian, and Lower Triassic Rocks of Confusion Range, West-Central Utah 2167 Hoskinnini Member (Triassic?) of Moenkopi Formation on Colorado Plateau, Stratigraphic Relations of. By John H. Stewart Hotchkiss, Henry. Petroleum Developments in Middle East and Adjacent Countries in 1958 Houser, F. N., and E. B. Ekren. Relations of Lower Cretaceous and Upper Jurassic Rocks, Four Corners Area, Colorado 190 Houston Geological Society Study Group, L. Bruce Forney, Chairman. Frio Formation of Upper Texas Gulf Coast. Abstract Houston Geological Society Study Group. The Frio Formation of the Upper Gulf Coast of Texas. Review by Alva C. Ellisor 2245 Howe, Herbert J. Montoya Group Stratigraphy (Ordovician) of Trans-Pecos, Texas 2285 Howell, J. V. Review of Annotated Bibliography of Geology of the Sedimentary Basin of Alberta and of Adjacent Parts of British Columbia and Northwest Territories, 1845-1955, by Alberta Geological Society 2018 Hoyt, William V. Erosional Channel in Middle Wilcox Near Yoakum, Lavaca County, Texas. Abstract 2515 Hsu, K. Jinghwa. Size, Sorting, Mineralogy, and Chemical Composition of Recent Sands of Northern Gulf Coast. Abstract 2520 Hubbert, M. King. Techniques of Prediction with Applications to Petroleum Industry. Ab-Huffman, George G. Pre-Desmoinesian Isopachous and Paleogeologic Studies in Central Mid-Continent Region 2541 Huizachal Group (Mesozoic), State of Tamaulipas, Mexico, Age and Correlation of. By Robert B. Mixon, Grover E. Murray, and Teodoro Díaz G. (Addendum, 2499) 757 Hunt, A. D., and J. D. Ratcliffe. Triassic Stratigraphy, Peace River Area, Alberta and British Columbia, Canada. 563 Hurley, G. W. Overthrust Faulting and Paleozoic Gas Prospects in Montana's Disturbed Belt. Abstract 1000 Hyer, Donald E., and Warren Latshaw. Developments in Louisiana Gulf Coast in 1958 Idaho and Wyoming, Developments in 1958. By Eugene C. Eaton 1356 Illinois, Developments in 1958. By Alfred H. Bell and Jacob van den Berg 1183 Southwestern, Correlation of Boskydell Sandstone in. Geological Note by George A. Desborough 2720 Imlay, Ralph W., Hollis M. Dole, Francis G. Wells, and Dallas Peck. Relations of Certain Upper Jurassic and Lower Cretaceous Formations in Southwestern Oregon 2770 Indiana, Developments in 1958. By G. L. Carpenter . 1191 Industry and Geological Agencies Evaluate a Curriculum in Geology. Geological Note by Paul Dean Proctor 2228 Influence of Jackson Dome on Sedimentary Facies and Effect on Water-Bearing Properties of Claiborne in Jackson Area, Mississippi. By Joseph W. Lang. Abstract 2516 Interior Salt Domes of Texas, Louisiana, and Mississippi. By G. C. Clark. Abstract . 1776 Interpreting Diagenetic History of Sandstones. By E. C. Dapples. Abstract 1765 Investigations in Radioactivity-Dating of Sediments. By S. S. Goldich, H. Baadsgaard, G. Edwards, and C. E. Weaver . . . 654

| Ireton Formation of Alberta, Application of Resistivity Mapping to Upper Devonian Inter- | |
|--|--------------|
| reef. By R. G. McCrossan. Abstract | 1101 |
| Irwin, William P., and Edgar H. Bailey. K-Feldspar Content of Jurassic and Cretaceous Gray- wackes of Northern Coast Ranges and Sacramento Valley, California | 2797 |
| Italy, Turbidite, Tectonic and Gravity Transport, Northern Apennine Mountains. By John C. | 2701 |
| Maxwell Ives, R. E., and G. D. Ells. Developments in Michigan in 1958 | 1197 |
| Jackson Dome on Sedimenton, Engineerd Effect on Water Booring Deposition of Claibarns in | |
| Jackson Dome on Sedimentary Facies and Effect on Water-Bearing Properties of Claiborne in Jackson Area Mississippi Influence of Ry Joseph W Lang Abstract | 2516 |
| Jackson Area, Mississippi, Influence of. By Joseph W. Lang. Abstract Jackson Group (Eocene), South-Central Texas, Stratigraphy of. By D. Hoye Eargle | 2623 |
| Jacobsen, Lynn. Sedimentation of Some Springer Sandstone (Mississippian-Pennsylvanian) Reservoirs, Southern Oklahoma | 2575 |
| Japan and Adjacent Areas, Productive and Prospective Petroliferous Zones Within Tectonic | 2010 |
| Framework of. By Godfrey F. Kaufmann | 381 |
| Jardine, D., and B. V. Sanford. Developments in Eastern Canada in 1958 | 1419 |
| Joffre, Lloydminster, Pembina, and Redwater Oil Fields of Alberta and Saskatchewan, Can- ada, Geochemical Aspects of Petroleum Migration in. By Gordon W. Hodgson and | |
| Bruce L. Baker | 311 |
| Johnson, Allan W., et al. Oil and Gas Developments in Ohio in 1958 | 1161 |
| Johnson, Robert, et al. Upper Frio Lithofacies in Eastern Counties of Texas Gulf Coast. Ab- | |
| stract | 2514 |
| Johnstone, M. H., and P. E. Playford. Oil Exploration in Australia | 397 2496 |
| Johnstone, M. H., et al. Discussion on Oil Exploration in Australia | 2511 |
| Jones, D. L., et al. Geological Note on Pigeon Point Formation of Late Cretaceous Age, | 2011 |
| San Mateo County, California | 2855 |
| Jones, R. W. Origin of Salt Anticlines of Paradox Basin | 1869 |
| Jordan, G. F., and H. B. Stewart, Jr. Continental Slope Off Southwest Florida | 974 911 |
| Judson, Sidney A., and W. A. Clark, Jr. Memorial of Dugald Gordon | 260 |
| Jurassic and Cretaceous Graywackes of Northern Coast Ranges and Sacramento Valley, Cali- | 200 |
| fornia, K-Feldspar Content of. By Edgar H. Bailey and William P. Irwin | 2797 |
| Jurassic, Upper, and Lower Cretaceous Formations in Southwestern Oregon, Relations of Cer- | |
| tain. By Ralph W. Imlay, Hollis M. Dole, Francis G. Wells, and Dallas Peck | 2770 |
| Jurassic, Upper, and Lower Cretaceous Rocks, Four Corners Area, Colorado, Relations of. By E. B. Ekren and F. N. Houser | 190 |
| by D. D. Daten and T. N. Housel | 130 |
| K-Feldspar Content of Jurassic and Cretaceous Graywackes of Northern Coast Ranges and | |
| Sacramento Valley, California. By Edgar H. Bailey and William P. Irwin | 2797 |
| Kane, Henry E. Late Quaternary Geology of Sabine Lake and Vicinity, Texas and Louisiana. | |
| Abstract | 2519 |
| Kapingamarangi Atoll, Sedimentary Belts in Lagoon of. By Edwin D. McKee, John Chronic, | 501 |
| and Estella B. Leopold . Kartsev, Tabasaranskii, and Mogilevskii. Geochemical Methods of Prospecting and Explora- | 301 |
| tion for Petroleum and Natural Gas. Review by R. D. McIver | 2726 |
| Kaufmann, Godfrey F. Petroleum Developments in Far East in 1958 | 1714 |
| Productive and Prospective Petroliferous Zones Within Tectonic Framework of Japan | 201 |
| and Adjacent Areas | 381 |
| Kay, Marshall, and Noel H. Stearn. Report of A.A.P.G. Directors of American Geological Institute | 1454 |
| Kay, Marshall, and Philip Oxley. Ordovician Chazyan Series of Champlain Valley, New York | |
| and Vermont, and Its Reefs | 817 |
| Keefer, William R. Discussion on Stratigraphy of Northwestern Part of Wind River Basin, | 1000 |
| Dubois Area, Wyoming . Keller W. D. Problems and Progress in Studies of Diagonasia of Argillacous Pocks. Abstract | 1080 1766 |
| Keller, W. D. Problems and Progress in Studies of Diagenesis of Argillaceous Rocks. Abstract Kelley, Vincent C. Fractures in Sedimentary Rocks. Abstract | 1099 |
| Kellough, Gene Ross. Biostratigraphic and Paleoecologic Study of Midway Foraminifera | 2000 |
| Along Tehuacana Creek, Limestone County, Texas. Abstract | 2517 |
| Kentucky, Oil and Gas Developments in 1958. By Edmund Nosow | 1173 |
| Kidwell, A. L., and Parke A. Dickey. Origin of Oil. Abstract. | 1769 1113 |
| Kimball, Kent T. Memorial of Donald Bradford Wines | 1113 |

| Kinard, John C. and Andrew R. Fish. Madison Group Stratigraphy and Nomenclature in | |
|---|--------------|
| Northern Williston Basin. Abstract | 1097 |
| King, Elizabeth R. Regional Magnetic Map of Florida | 2844 |
| King, Robert E. Petroleum Developments in Europe in 1958 | 1581 |
| King, Vernon L., et al. Memorial of William Darwin Kleinpell | 2890 |
| Kinsey, Vail. Developments in Colorado and Western Nebraska in 1958 | 1370 |
| Kirk, M. V. Summary of Jurassic Stratigraphy of Alaska. Abstract | 260 |
| Kleinpell, William Darwin. Memorial by Thomas J. Fitzgerald, Vernon L. King, and Earl B. | |
| Noble | 2890 |
| Knight, William V., and Harrell Budd. Horseshoe-Gallup Field-Preliminary Report. Ab- | |
| stract | 1100 |
| Konce, Gene K., and Frank P. Battan. Developments in East Texas in 1958. | 1293 |
| Kornicker, Louis S. Analysis of Factors Affecting Quantitative Estimates of Organism Abun- | 2500 |
| dance. Abstract | 2516 |
| Kotick, Ottmar F. Committee on National Responsibility | 1473 |
| Kreidler, W. Lynn. Gas and Oil Developments in New York in 1958 | 1139 915 |
| Kurtz, Robert Gourdin. Memorial By Wilson B. Emery | 913 |
| Lang, Joseph W. Influence of Jackson Dome on Sedimentary Facies and Effect on Water- | |
| Bearing Properties of Claiborne in Jackson Area, Mississippi. Abstract | 2516 |
| Lankford, Robert R. Distribution and Ecology of Foraminifera From East Mississippi Delta | 2010 |
| Margin | 2068 |
| Lankford, Robert R., and Francis P. Shepard. Sedimentary Facies From Shallow Borings in | 2000 |
| Lower Mississippi Delta | 2051 |
| Last Chance Canyon and Vicinity, Southeastern New Mexico, San Andres Limestone and | acc. |
| Related Permian Rocks in. By Philip T. Hayes | 2197 |
| Late Mesozoic Positive Area in Western Utah. By H. D. Harris (Abstract, 252) | 2636 |
| Late Quaternary Geology of Sabine Lake and Vicinity, Texas and Louisiana. By Henry E. | |
| Kane. Abstract | 2519 |
| Latshaw, Warren, and Donald E. Hyer. Developments in Louisiana Gulf Coast in 1958 | 1312 |
| LeBlanc, Rufus J., and W. D. Hodgson. Origin and Development of Texas Shoreline. Abstract | 2519 |
| Lee, Jean L. Review of Nesson Anticline of North Dakota, by North Dakota Geological | |
| Society | 2727 |
| Lemke, R. W., et al. Revision of Colorado Group on Sweetgrass Arch, Montana | 2786 |
| Leopold, Estella B., et al. Sedimentary Belts in Lagoon of Kapingamarangi Atoll | 501 |
| LeRoy, Duane O., et al. Chenier Plain and Its Stratigraphy, Southwestern Louisiana. Abstract | 2520 |
| LeRoy, William H., and George N. Yeckl. Geology of North Tejon Field. Abstract | 252 |
| Limes, Leonard L., and Jack C. Stipe. Occurrence of Miocene Oil in South Louisiana. Abstract | 2513 |
| Limestone Conglomerates (Recent and Cretaceous) in Southern Florida. Geological Note by | 2237 |
| Joseph E. Banks | 1479 |
| Lippitt, L. Statistical Analysis of Regional Facies Change in Ordovician Cobourg Limestone in | 14/9 |
| Northwestern New York and Southern Ontario | 807 |
| List of Forthcoming Field Trips in United States and Canada, By George H. Fentress . 718 | |
| Lithologic Analysis of Sedimentary Rocks. By Robert P. McNeal | 854 |
| Lloydminster, Pembina, Redwater, and Joffre Oil Fields of Alberta and Saskatchewan, Can- | OUL |
| ada, Geochemical Aspects of Petroleum Migration in. By Gordon W. Hodgson and | |
| Bruce L. Baker | 311 |
| Lochman-Balk, Christina. Review of The Cambrian Sandstones of Northern Michigan, by | |
| Wm. Kenneth Hamblin | 2503 |
| Log Interpretation in Brackish-Water Frio Trend. By Terry Walker. Abstract | 2515 |
| Lohman, Kenneth E. Note 22—Records of the Stratigraphic Commission for 1957-1958. | |
| American Commission on Stratigraphic Nomenclature. Prepared by | 1967 |
| Lötze, Franz, Steinsalz und Kalisalze, by; and Ozeane Salzlagerstätten, by Hermann Borchert. | |
| Review by Paul Weaver | 2782 |
| Louisiana, Geology of Avery Island Salt Dome, Iberia Parish. By Fred W. Bates, Robert R. | |
| Copeland, Jr., and Kenneth P. Dixon | 944 |
| , Grandison Complex, Lafourche and Jefferson Parishes. By Ramsey L. Oakes. Abstract | 2518 |
| Gulf Coast, Developments in 1958. By Donald E. Hyer and Warren Latshaw | 1312 |
| , South, Occurrence of Miocene Oil in. By Leonard L. Limes and Jack C. Stipe. Abstract | 2513 |
| | 2510 |
| Goheen, Abstract | 2518 2470 |
| ——, Southern, Bay Sainte Elaine Oil Field. By Stephen J. Schneider | 24/10 |

| , Southern, Salt Domes and Its Effect on Petroleum Accumulation, Nature of Growth | |
|---|--------------|
| of. By Gordon Atwater and McLain J. Forman | 2592 |
| ——, Southwestern, Chenier Plain and Its Stratigraphy. By John V. Byrne, Duane O. LeRoy, and Charles M. Riley. Abstract | 2520 |
| , Southwestern, Geologic History of Chenier Plain. By H. R. Gould and E. McFarlan, Jr. Abstract | 2520 |
| , Thornwell Field, Jefferson Davis and Cameron Parishes. By Frank R. Hardin. Ab- | |
| stract | 2518 |
| Kane. Abstract | 2519 |
| Louisiana, Mississippi, and Texas, Interior Salt Domes of. By G. C. Clark. Abstract Louisiana, North, and Arkansas, Developments in 1958. By William L. Champion and | 1776 |
| Sankey L. Blanton | 1322 |
| Lower Cretaceous of Southern Alberta and Adjoining Areas. By R. Perry Glaister Lower Paleozoic Rocks of Northern Williston Basin and Adjacent Areas. By J. W. Porter and J. G. C. M. Fuller | 590 124 |
| Lucero Basin, Central New Mexico, Pennsylvanian Paleogeology and Search for Oil in. By | |
| Sherman A. Wengerd. Abstract Lukert, Louis H. Review of The Composite Interpretive Method of Logging Drill Cuttings, by | 1108 |
| John C. Maher. | 2874 |
| Lusk, Tracy W., and F. B. St. John, Jr. Developments in Southeastern States in 1958. Lytle, William S. Developments in Pennsylvania in 1958. | 1331 1144 |
| Mackenzie, Lower, Area,-North Yukon, Canada, Stratigraphy and Depositional Tectonics of. | |
| By J. L. Martin | 2399 |
| MacKevett, N. H. Geology of Northwest Ten Section. Abstract | 257 |
| Robert H. Parker | 2100 |
| Madison Group Stratigraphy and Nomenclature in Northern Williston Basin. By Andrew R. Fish and John C. Kinard. Abstract | 1097 |
| Magnesium in Crude Oils of Western Canada. Geological Note by Bruce L. Baker and Gor- | 1021 |
| don W. Hodgson | 472 1462 |
| Maher, John C. Report of Committee on Stratigraphic Correlations The Composite Interpretive Method of Logging Drill Cuttings. Review by Louis H. | |
| Lukert . Major, C. F., Jr., et al. Galveston Barrier Island and Environs: Model for Predicting Reservoir | 2874 |
| Occurrence and Trend. Abstract. | 2519 |
| Major Gas Fields of West Pakistan. By H. R. Tainsh, K. V. Stringer, and J. Azad | 2675 |
| Mallory, James A. Nodosaria Sand Environments in Eastern Counties of Texas Gulf Coast. Abstract | 2514 |
| Mallory, William Wyman. Rocky Mountain Association of Geologists Symposium on Penn- | AUA'A |
| | , 1779 |
| Manitoba, Canada, Ordovician and Silurian Stratigraphy and Sedimentation in Southern. By John M. Andrichuk | 2333 |
| Mann, H. Developments in Alaska in 1958 | 1427 |
| Mapel, W. J., et al. Pierre Shale Along Western and Northern Flanks of Black Hills, Wyoming and Montana | 101 |
| Marianos, A. W., et al. Eocene Gorge in Northern Sacramento Valley. Abstract | 255 |
| Marine Lignite. Geological Note by Alfred J. Carsola | 676 |
| Marine Redbeds in Central Colorado Basin. By Theodore R. Walker. Abstract | 1107 |
| Area, Canada | 2399 |
| Matthews, J. M., H. H. Felsted, and H. W. Deschner. Developments in South Texas in 1958 | 1283 |
| Maughan, E. K., et al. Revision of Colorado Group on Sweetgrass Arch, Montana | 2786 |
| Maxson, John H. Report of Committee for Publication Maxwell, John C. Turbidite, Tectonic and Gravity Transport, Northern Apennine Moun- | 1464 |
| tains, Italy | 2701 |
| McCollum, E. V. Geology, a Geophysical Tool | 1503 |
| McConnell, Richard B., and John Rodgers. Note 23—Need for Rock-Stratigraphic Units Larger Than Group. American Commission on Stratigraphic Nomenclature | 1971 |
| McCrossan, R. G. Application of Resistivity Mapping to Upper Devonian Interreef Ireton | |
| Formation of Alberta. Abstract | 1101 |

2919

2541

1676

2008

1069

688

McFarlan, E., Jr., and H. R. Gould. Geologic History of Chenier Plain, Southwestern Louisi-McFerron, George I. Clarence Luther Severy, Honorary Member 2520 1750 McIver, R. D. Review of Geochemical Methods of Prospecting and Exploration for Petroleum and Natural Gas, by Kartsev, Tabasaranskii, and Mogilevskii . 2726 McKee, Edwin D., John Chronic, and Estella B. Leopold. Sedimentary Belts in Lagoon of Kapingamarangi Atoll 501 McNeal, Robert P. Lithologic Analysis of Sedimentary Rocks 854 1767 Meinschein, W. G. Origin of Petroleum 925 Meinschein, W. G. Origin of Petroleum
Memorial of Brankamp, Richard Allen. By James Terry Duce
of Brant, Ralph Allen. By Harold E. Enlows
of Davie, Thomas Earl. By John P. Thompson
of Decker, Charles Elijah. By V. E. Monnett 261 1788 2524 263 of Deiss, Charles Frederick. By John B. Patton 2525 911 of Halepeska, Dennis Leonard. By Richard L. Vaughn of Kleinpell, William Darwin. By Thomas J. Fitzgerald, Vernon L. King, and Earl B. 913 2890 915 2278 of Mullen, John Hinothy, Jr. By John K. Fanshaw and John Schollen, John Harry Hackett. By Wesley G. Gish of Reeside, John Bernard, Jr. By W. A. Cobban of Russ, Leon Fair. By W. E. Wrather 917 2528 2530 of Russ, Leon Fair. By W. E. Wrather
of van der Linden, Bernard Hugo. By John R. Suman
of Weaver, Charles Edwin. By Charles V. Fulmer
of Wines, Donald Bradford. By Kent T. Kimball 919 — of Woolnough, Walter George. By H. G. Raggatt . Mesaverde Formation, East-Central Wyoming, Facies of. By John R. Barwin. Abstract 2035 1094 Mescal Range, Geology of. By J. R. Evans. Abstract Mesozoic, Late, Positive Area in Western Utah. By H. D. Harris (Abstract, 252).

Mexico, Age and Correlation of Huizachal Group (Mesozoic), State of Tamaulipas. By 2636 Robert B. Mixon, Grover E. Murray, and Teodoro Díaz G. (Addendum, 2477) , Difunta Strata of Tertiary Age, Coahuila. Geological Note by Grover E. Murray, James A. Wolleben, and Donald R. Boyd 2493 , North-Central and Northeastern, Problems of Paleozoic Tectonics in. Geological Note by Peter T. Flawn and Teodoro Díaz G. 224 , Northeastern, Petroleum Geology of Anahuac and Frio Formations of. By Lauro A. 1775 Yzaguirre. Abstract 1505 Meyerhoff, Howard A., and A. John Haworth. Report of Representatives on Council of Ameri-Michigan, Developments in 1958. By R. E. Ives and G. D. Ells 1456 , Northern, The Cambrian Sandstones of. By Wm. Kenneth Hamblin. Review by Chris-2503 tina Lochman-Balk Mid-Continent, North, Developments in 1958, By George O. Williams . 1208

Mid-Continent Region, Pre-Desmoinesian Isopachous and Paleogeologic Studies in Central.

Middle Devonian Sedimentation and Oil Possibilities, Central Saskatchewan, Canada. By

Middle East and Adjacent Countries, Petroleum Developments in 1958. By Henry Hotchkiss

Midway Foraminifera Along Tehuacana Creek, Limestone County, Texas, Biostratigraphic and Paleoecologic Study of. By Gene Ross Kellough. Abstract

Minturn Formation (Des Moines) Near McCoy, Colorado, Fossiliferous Marine Redbeds in.

Miocene Age in Puget Sound Lowland, Washington, Continental Sediments of. Geological

Miniature Recorder: New Geological Tool. Geological Note by Samuel P. Ellison, Jr.

Milhous, H. C. Oil and Gas Developments in Tennessee in 1958

Note by D. R. Mullineaux, L. M. Gard, and D. R. Crandell

Geological Note by Theodore R. Walker

By George G. Huffman

Ralph W. Edie

| Mississippi Delta Margin, Distribution and Ecology of Foraminifera From East. By Robert R | |
|--|------|
| Lankford | 206 |
| Mississippi Delta, Sedimentary Facies From Shallow Borings in Lower. By Francis P Shepard and Robert R. Lankford | 205 |
| Mississippi, Influence of Jackson Dome on Sedimentary Facies and Effect on Water-Bearing | |
| Properties of Claiborne in Jackson Area. By Joseph W. Lang. Abstract | 251 |
| Mississippi, Texas, and Louisiana, Interior Salt Domes of. By G. C. Clark. Abstract | 177 |
| Mississippian of Four Corners Region. By Dix R. Turnbow. Abstract | 110 |
| of Williston Basin and Their Effects Upon Fluid Migration, Facies Relationships in. | |
| By Clement B. Thames, Jr. Abstract | 110 |
| Mississippian, Upper,-Lower Pennsylvanian Stratigraphy of Central Montana and Williston | |
| Basin. By Ronald P. Willis | 194 |
| Group (Mesozoic), State of Tamaulipas, Mexico (Addendum, 2499) | 75 |
| Model, Richard M., and John J. Schulte. Oil and Gas Possibilities of Porcupine Dome, Rose- | 13 |
| bud County, Montana. Abstract | 110 |
| Moenkopi Formation on Colorado Plateau, Stratigraphic Relations of Hoskinnini Member | |
| (Triassic?) of. By John H. Stewart | 1852 |
| Moenkopi Formation (Triassic? and Triassic) in Salt Anticline Region, Colorado and Utah. By | |
| Eugene M. Shoemaker and William L. Newman | 1833 |
| Mogilevskii, et al. Geochemical Methods of Prospecting and Exploration for Petroleum' and | |
| Natural Gas. Review by R. D. McIver. | 2720 |
| Monnett, V. E. Memorial of Charles Elijah Decker | 263 |
| Montana, Central, Revision of Big Snowy Group in. By Louis S. Gardner | 329 |
| ——, Central, Stratigraphy of Amsden Formation in Wolf Springs-Delphia Area. By R. D. Ramsey. Abstract | 1103 |
| , Oil and Gas Possibilities of Porcupine Dome, Rosebud County. By Richard M. Model | 1100 |
| and John J. Schulte. Abstract | 1101 |
| - Revision of Colorado Group on Sweetgrass Arch. By W. A. Cobban, C. E. Erdmann, | |
| R. W. Lemke, and E. K. Maughan | 2786 |
| Montana and Wyoming, Pierre Shale Along Western and Northern Flanks of Black Hills. By | |
| C. S. Robinson, W. I. Mapel, and W. A. Cobban | 101 |
| Montana, Central, and Williston Basin, Upper Mississippian-Lower Pennsylvanian Stratigra- | 1010 |
| phy of. By Ronald P. Willis | 1940 |
| Montana, North Dakota, and South Dakota, Developments in 1958. By John R. Dyer and | 1217 |
| Robert H. Burton | 1345 |
| Montana's Disturbed Belt, Overthrust Faulting and Paleozoic Gas Prospects in. By G. W. | 1000 |
| Hurley, Abstract | 1099 |
| Montgomery, J. C., et al. Heterostegina Reef on Piercement Salt Domes, with Special Reference | 2515 |
| to Nash and Others in Northwestern Brazoria County, Texas. Abstract | 2285 |
| Moody, John D., et al. Petroleum Developments in Africa in 1958 | 1625 |
| Moore, Raymond Cecil, Powers Memorial Medalist. By Edgar W. Owen | 1738 |
| Response to Sidney Powers Memorial Medal Award | 1741 |
| Moran, W. R. Report of Committee on Preparation of Lantern Slides | 1481 |
| Morley, Harold T. Minutes, Forty-Fourth Annual Business Meeting, Dallas, Texas, March | LEGI |
| | 1439 |
| 19, 1959. George S. Buchanan, Chairman | 1451 |
| | 1441 |
| ———. Report of Secretary-Treasurer Muenster Arch and Associated Basins in North Texas, Oil Accumulation Related to Geologic | 1441 |
| History of By H. H. Bradfield, Abstract | 1775 |
| Mullen, John Timothy, Jr. Memorial by John R. Fanshawe and Herbert D. Hadley | 2278 |
| Mullineaux, D. R., L. M. Gard, and D. R. Crandell. Geological Note on Continental Sedi- | 22,0 |
| ments of Miocene Age in Puget Sound Lowland, Washington | 688 |
| Murray, Grover E., James A. Wolleben, and Donald R. Boyd. Geological Note on Difunta | |
| Strata of Tertiary Age, Coahuila, Mexico | 2493 |
| Murray, Grover E., et al. Age and Correlation of Huizachal Group (Mesozoic), State of | |
| Tamaulipas, Mexico (Addendum, 2477) | 757 |
| Murray, William J., Jr. Conservation of Oil and Gas and Its Relation to Exploration. Abstract | 1768 |
| Murry, George H., Jr. Examples of Hydrodynamics in Williston Basin at Poplar and North | |
| Tioga Fields. Abstract | 1102 |
| | |

| Nature of Growth of Southern Louisiana Salt Domes and Its Effect on Petroleum tion. By Gordon I. Atwater and McLain J. Forman. Nebraska, Western, and Colorado, Developments in 1958. By Vail Kinsey Nesbitt, John. Core Examination. Abstract. Nesson Anticline of North Dakota, by North Dakota Geological Society. Review | | 2592 1370 1102 |
|--|--------------|----------------------|
| Lee . Nevada and Utah, Oil and Gas Developments in 1958. By D. A. Preston and | Graham S. | 2727 |
| Campbell New Approach to Dipmeter Computation. By T. H. Braun and G. Y. Wheatley. Ab New Log Interpretation Techniques for Gulf Coast. By R. P. Burton. Abstract New Upper Devonian Reef Producing Horizon, North-Central Alberta, Canada. By | | 2517 |
| Clark. Abstract Newberry Basin, Mojave Desert, Post-Miocene Sedimentation and Possibilities Saline Minerals in. By E. A. Danehy. Abstract Newman, William L., and Eugene M. Shoemaker. Moenkopi Formation (Triassic | | 1780 256 |
| assic) in Salt Anticline Region, Colorado and Utah New Mexico, Central, Pennsylvanian Paleogeology and Search for Oil in Lucero | Basin. By | 1835 |
| Sherman A. Wengerd. Abstract ——————————————————————————————————— | | 1108 |
| Raton Basin. By Elmer H. Baltz, Jr. Abstract , Northeastern, Revisions in Stratigraphic Nomenclature in Tucumcari-Sabi Geological Note by R. L. Griggs and C. B. Read | noso Area. | 2003 |
| —, Southeastern, San Andres Limestone and Related Permian Rocks in La Canyon and Vicinity. By Philip T. Hayes | st Chance | 2197 |
| New Mexico, Southeastern, and West Texas, Developments in 1958. By Bernold N et al. | | 1248 |
| New Mexico, Southwestern, and Southeastern Arizona, Geologic Controls in Oil an ploration in. By Robert A. Zeller, Jr. Abstract New Mexico-Texas, Delaware and Val Verde Basins. By C. D. Vertrees, Glen F. | | 1109 |
| C. Hayden Atchison. Abstract New Mexico, Western, and Arizona, Developments in 1958. By Harrell Budd New Mexico Geological Society in Cooperation with Arizona Geological Society. Gu | | 1777 1379 |
| the Black Mesa Basin, Northeastern Arizona. Review by Martin Van Couver New Windsor Oil Field, Dual Stratigraphic Trap. By J. W. Rold. Abstract New York, Gas and Oil Developments in 1958. By W. Lynn Kreidler | | 697 1104 1139 |
| ——, Western and Central, Revised Correlations of Lower Upper Devonian Row Wallace de Witt, Jr., and George W. Colton. New York and Vermont, Ordovician Chazyan Series of Champlain Valley, and Its | | 2810 |
| Philip Oxley and Marshall Kay . New York, Northwestern, and Southern Ontario, Statistical Analysis of Region | | 817 |
| Change in Ordovician Cobourg Limestone in. By L. Lippitt Noble, Earl B., et al. Memorial of William Darwin Kleinpell | : : : : | 807 2890 |
| Nodosaria Sand Environments in Eastern Counties of Texas Gulf Coast. By James A Abstract Nolan, Philip Edward. Memorial by I. G. Davis | | 2514 917 |
| Norris, R. P. Developments in West-Central Texas in 1958 North Dakota, Nesson Anticline of By North Dakota Geological Society. Review b | 1 | 1276 |
| Lee | | 2727 |
| Robert H. Burton . North Dakota Geological Society. Nesson Anticline of North Dakota. Review by Je North Tejon Field, Geology of. By William H. LeRoy and George N. Yeckl. Abstr | ean L. Lee | 1345 2727 252 |
| North Tioga and Poplar Fields, Examples of Hydrodynamics in Williston Basi George H. Murry, Jr. Abstract Northwest Ten Section, Geology of. By N. H. MacKevett. Abstract Northwest Territories, 1845–1955, Annotated Bibliography of Geology of the Sec | 1 | 1102 257 |
| Basin of Alberta and of Adjacent Parts of British Columbia and, by Alberta of Society. Review by J. V. Howell Nosow, Edmund. Oil and Gas Developments in Kentucky in 1958 Nowlan, Harry Hackett. Memorial by Wesley G. Gish | Geological | 2018 1173 2528 |
| Oakes, Ramsey L. Grandison Complex, Lafourche and Jefferson Parishes, Louisiana | . Abstract 2 | 2518 |

| Occurrence of Miocene Oil in South Louisiana. By Leonard L. Limes and Jack C. Stipe. Ab- | |
|--|--------------|
| stract Oetking, Philip F., Geological Highway Map of Texas, Compiled by, Review by E. H. Rain- | 2513 |
| water Ohio, Oil and Gas Developments in 1958. By Robert L. Alkire, Bernard A. Floto, and Allan W. | 2020 |
| Johnson | 1161 |
| Oil Accumulation Related to Geologic History of Muenster Arch and Associated Basins in North Texas. By H. H. Bradfield. Abstract | 1775 |
| Oil Basins of Peru, By Irving T. Schwade, Abstract | 255 |
| Oil-Coal Association in Central Anzoátegui, Venezuela. Geological Note by Luis M. Banks . | 1998 |
| Oil Exploration in Australia. By P. E. Playford and M. H. Johnstone | 397 |
| Discussion by C. W. Siller and E. A. Webb, and P. E. Playford and M. H. Johnstone Oil Migration. By Gilman Hill. Abstract | 2496 1770 |
| Oil Potential of Minnelusa Formation, Powder River Basin, Wyoming. By Donald I. Foster. | 1770 |
| Abstract | 1097 |
| Oil and Gas Developments in Kentucky in 1958. By Edmund Nosow | 1173 |
| in Ohio in 1958. By Robert L. Alkire, Bernard A. Floto, and Allan W. Johnson | 1161 |
| in Tennessee in 1958. By H. C. Milhous | 1181 |
| ——— in Utah and Nevada in 1958. By D. A. Preston and Graham S. Campbell ——— in West Virginia in 1958. By R. C. Tucker | 1364 1169 |
| Oil and Gas Possibilities of Porcupine Dome, Rosebud County, Montana. By Richard M. | 1109 |
| Model and John J. Schulte. Abstract | 1101 |
| Oklahoma, Anadarko Basin, Stratigraphic Traps Along North Shelf of. By J. Durwood Pate | 39 |
| ——, Developments in 1958. By M. C. Roberts | 1221 |
| , Southern, Sedimentation of Some Springer Sandstone (Mississippian-Pennsylvanian) | 2575 |
| Reservoirs. By Lynn Jacobsen Oklahoma and Texas Panhandles, Developments in 1958. By Maynard G. Christenson | 2575 1235 |
| Ontario, Southern, Statistical Analysis of Regional Facies Change in Ordovician Cobourg | 1433 |
| Limestone in Northwestern New York and. By L. Lippitt | 807 |
| Oppenheim, Victor. Explorations East of the High Andes. Review by Glenn O. Briscoe | 1085 |
| Ordovician Chazyan Series of Champlain Valley, New York and Vermont, and Its Reefs. By | 0.47 |
| Philip Oxley and Marshall Kay | 817 |
| Ordovician Cobourg Limestone in Northwestern New York and Southern Ontario, Statistical Analysis of Regional Facies Change in. By L. Lippitt | 807 |
| Ordovician and Silurian Stratigraphy and Sedimentation in Southern Manitoba, Canada. By | 007 |
| John M. Andrichuk | 2333 |
| Oregon, Southwestern, Relations of Certain Upper Jurassic and Lower Cretaceous Formations | |
| in. By Ralph W. Imlay, Hollis M. Dole, Francis G. Wells, and Dallas Peck | 2770 |
| Origin of Oil. By A. L. Kidwell and Parke A. Dickey. Abstract | 1769 |
| of Petroleum. By W. G. Meinschein | 925 1869 |
| Origin and Development of Texas Shoreline. By Rufus J. LeBlanc and W. D. Hodgson, Ab- | 1007 |
| stract | 2519 |
| Ouachita Belt and Arbuckle Element: Interpretation. Geological Note by Peter T. Flawn | 2012 |
| Ouachita Mountains—A Symposium, Geology of the. By Dallas Geological Society and Ard- | |
| more Geological Society. Review by John Rodgers | 2019 |
| ——, Structure of the Frontal Belt of. By Thomas A. Hendricks. Abstract | 1778 |
| Hurley, Abstract | 1099 |
| Owen, Edgar W. Raymond Cecil Moore, Powers Memorial Medalist | 1738 |
| Report of Medal Award Committee | 1465 |
| Report of Membership Advisory Committee | 1480 |
| Oxley, Philip, and Marshall Kay. Ordovician Chazyan Series of Champlain Valley, New York | 0.45 |
| and Vermont, and Its Reefs | 817 |
| Review by Paul Weaver | 2872 |
| Account by Laut Weater | 2012 |
| Pacific, Geologic Architecture of Circum By Lewis G. Weeks | 350 |
| Pacific Section Annual Meeting, Los Angeles, November 12-13, 1959, Technical Program | 2521 |
| , November 6–7, 1958. Abstracts | 252 |
| Pakistan, West, Major Gas Fields of. By H. R. Tainsh, K. V. Stringer, and J. Azad | 2675 |
| Paleontological and Mineralogical Aspects of Polar Wandering and Continental Drift: S.E.P.M. Symposium, Atlantic City, April 25–26, 1960 | 2275 |
| S.E.I.M. Symposium, Atlantic City, April 25-20, 1900 | 4412 |

2923

Paleozoic Gas Prospects in Montana's Disturbed Belt, Overthrust Faulting and. By G. W. 1099 Hurley. Abstract Paleozoic, Lower, Rocks of Northern Williston Basin and Adjacent Areas. By J. W. Porter and J. G. C. M. Fuller 124 Stratigraphy of Black Mesa Basin, Northeastern Arizona and Surrounding Areas. By Wolfgang E. Elston. Abstract 1096 Tectonics and Sedimentation, Basin-and-Range Structure Reflects. By Grant Steele. Tectonics in North-Central and Northeastern Mexico, Problems of. Geological Note by Peter T. Flawn and Teodoro Díaz G. 224 Paradox Basin, Four Corners Region, Stratigraphic Controls on Pennsylvanian Oil of. By Sherman A. Wengerd. Abstract 1778 Origin of Salt Anticlines of. By R. W. Jones 1869 Pennsylvanian Paleotectonics of. By Richard W. Fetzner. Abstract 1096 Utah, White Mesa Field, Environmental Trap. By M. Dane Picard. Abstract 1103 Parker, Ben H. Arthur Edward Brainerd, Honorary Member 1741 Parker, Ben H., Frank B. Conselman, F. M. Van Tuyl, and John M. Ware. Committee on Code of Ethics Parker, Robert H. Macro-Invertebrate Assemblages of Central Texas Coastal Bays and Laguna Madre 2100 Parrott, B. S., et al. Galveston Barrier Island and Environs: Model for Predicting Reservoir 2519 Occurrence and Trend. Abstract. Pate, J. Durwood. Stratigraphic Traps Along North Shelf of Anadarko Basin, Oklahoma 39 Patnode, H. W., and Robert P. Trump. Geological Note on Addition of Perspective to Contour Maps 2009 Patton, John B. Memorial of Charles Frederick Deiss . Patton, R. E. Alaska-Legal Consequences of Statehood. Abstract 259 Peck, Dallas, et al. Relations of Certain Upper Jurassic and Lower Cretaceous Formations in Southwestern Oregon . Pembina, Redwater, Joffre, and Lloydminster Oil Fields of Alberta and Saskatchewan, Canada, Geochemical Aspects of Petroleum Migration in. By Gordon W. Hodgson and Bruce 311 Pennsylvania, Developments in 1958. By William S. Lytle 1144 Pennsylvanian Oil of Paradox Basin, Four Corners Region, Stratigraphic Controls on. By Sherman A. Wengerd. Abstract Oil Possibilities of San Juan Basin, Four Corners Region. By Sherman A. Wengerd 2214 Paleogeology and Search for Oil in Lucero Basin, Central New Mexico. By Sherman A. Wengerd. Abstract Paleotectonics of Paradox Basin. By Richard W. Fetzner. Abstract 1096 Rocks of Colorado, Rocky Mountain Association of Geologists Symposium on. By William Wyman Mallory. Abstract . .1101, 1779 Rocks of Sangre de Cristo Mountains and Raton Basin, New Mexico. Distribution and Facies of. By Elmer H. Baltz, Jr. Abstract 1093 , Upper, North-Central Texas, Problems of Stratigraphic Nomenclature and Classification. Discussion by L. F. Brown, Jr. 2866 Pennsylvanian and Permian Stratigraphy in Sangre de Cristo Mountains Between La Veta Pass and Westcliffe, Colorado. By Dudley W. Bolyard 1896 Pennsylvanian, Lower, Upper Mississippian Stratigraphy of Central Montana and Williston 1940 Basin. By Ronald P. Willis Pennsylvanian, Permian, and Lower Triassic Rocks of Confusion Range, West-Central Utah, Stratigraphy of. By Richard K. Hose and Charles A. Repenning Permian Basin (1919-1925), Early Prospecting in West Texas. By Ben C. Belt. Abstract 1772 Permian Rocks in Last Chance Canyon and Vicinity, Southeastern New Mexico, San Andres 2197 Limestone and Related. By Philip T. Hayes Permian and Pennsylvanian Stratigraphy in Sangre de Cristo Mountains Between La Veta Pass and Westcliffe, Colorado. By Dudley W. Bolyard 1896 Permian, Lower Triassic, and Pennsylvanian Rocks of Confusion Range, West-Central Utah, Stratigraphy of. By Richard K. Hose and Charles A. Repenning Peru, Oil Basins of. By Irving T. Schwade. Abstract 2016 Petersen, William A. Sedimentology of South Texas, by Corpus Christi Geological Society

Peterson, V. E. Structural Control Related to Stratigraphic Traps, Piceance Creek Basin,

Colorado. Abstract . .

| Petroleum Developments in Africa in 1958. By Hollis D. Hedberg, John D. Moody, and | |
|--|------|
| Louis C. Sass | 1625 |
| — in Europe in 1958. By Robert E. King | 1581 |
| in Far East in 1958. By Godfrey F. Kaufmann | 1714 |
| in Mexico in 1958. By Eduardo J. Guzmán | 1505 |
| in Middle East and Adjacent Countries in 1958. By Henry Hotchkiss | 1676 |
| in South America and Caribbean Area in 1958. By E. W. Clark | 1518 |
| Petroleum Geology of Anahuac and Frio Formations of Northeastern Mexico. By Lauro A. | |
| Yzaguirre. Abstract | 1775 |
| Petrology of Anacacho Limestone of Southwest Texas. By Lee L. Harvill. Abstract | 2521 |
| Pheasant-Francitas Area, Matagorda and Jackson Counties, Texas, Effect of Structural | |
| Movement of Sedimentation in. By John E. Walters. Abstract | 2514 |
| Picard, M. Dane. White Mesa Field, Environmental Trap, Paradox Basin, Utah. Abstract | 1103 |
| White Mesa Field, Environmental Trap, San Juan County, Utah | 2456 |
| Piceance Creek Basin, Colorado, Structural Control Related to Stratigraphic Traps. By V. E. | |
| Peterson, Abstract. | 1102 |
| Pierre Shale Along Western and Northern Flanks of Black Hills, Wyoming and Montana. By | |
| C. S. Robinson, W. J. Mapel, and W. A. Cobban | 101 |
| Pigeon Point Formation of Late Cretaceous Age, San Mateo County, California. Geological | |
| Note by C. A. Hall, Jr., D. L. Jones, and S. A. Brooks | 2855 |
| Playford, P. E., and M. H. Johnstone. Oil Exploration in Australia | 397 |
| Playford, P. E., et al. Discussion on Oil Exploration in Australia | 2496 |
| Popenoe, H. L. Developments in West Coast Area in 1958 | 1389 |
| Poplar and North Tioga Fields, Examples of Hydrodynamics in Williston Basin at. By | |
| George H. Murry, Jr. Abstract | 1102 |
| Porcupine Dome, Rosebud County, Montana, Oil and Gas Possibilities of. By Richard M. | |
| Model and John J. Schulte. Abstract | 1101 |
| Porter, J. W., and J. G. C. M. Fuller. Lower Paleozoic Rocks of Northern Williston Basin and | |
| Adjacent Areas | 124 |
| Position of Oil Fields of Southwest Iran with Respect to Relevant Sedimentary Basins. By | |
| N. L. Falcon. Correction | 484 |
| Post-Miocene Sedimentation and Possibilities of Oil and Saline Minerals in Newberry Basin, | |
| Mojave Desert. By E. A. Danehy. Abstract | 256 |
| Powder River Basin, Wyoming, Oil Potential of Minnelusa Formation. By Donald I. Foster. | |
| Abstract | 1097 |
| Practical Petrographic Classification of Limestones. By Robert L. Folk | 1 |
| Precambrian of Central Alberta, Canada, Geophysical and Petrological Study of. By G. D. | |
| Garland and R. A. Burwash | 790 |
| Pre-Desmoinesian Isopachous and Paleogeologic Studies in Central Mid-Continent Region. | |
| By George G. Huffman | 2541 |
| Preston, D. A., and Graham S. Campbell. Oil and Gas Developments in Utah and Nevada in | 1201 |
| 1958 | 1364 |
| Primary Degradation of Chlorophyll Under Simulated Petroleum Source Rock Sedimentation | 2404 |
| Conditions. By Gordon W. Hodgson and Brian Hitchon | 2481 |
| Problems and Progress in Studies of Diagenesis of Argillaceous Rocks. By W. D. Keller. Ab- | |
| stract | 1766 |
| Problems of Fault Nomenclature. By John C. Crowell | 2653 |
| of Paleozoic Tectonics in North-Central and Northeastern Mexico. Geological Note | 224 |
| by Peter T. Flawn and Teodoro Díaz G | 224 |
| of Stratigraphic Nomenclature and Classification, Upper Pennsylvanian, North-Cen- | 2000 |
| tral Texas. Discussion by L. F. Brown, Jr. | 2866 |
| Proctor, Paul Dean. Geological Note on Industry and Geological Agencies Evaluate a Cur- | 2220 |
| riculum in Geology | 2228 |
| Productive and Prospective Petroliferous Zones Within Tectonic Framework of Japan and | 201 |
| Adjacent Areas. By Godfrey F. Kaufmann | 381 |
| Prospecting for Stratigraphic Traps. By Daniel A. Busch (Abstract, 1771) | 2829 |
| Provost Gas Field, Alberta, Canada. By J. E. Renaud. Abstract | 1104 |
| Pseudo Evidences of Oil and Gas. Geological Note by Ralph Arnold | 1058 |
| 0 | |
| Quaternary, Late, Geology of Sabine Lake and Vicinity, Texas and Louisiana. By Henry E. | 2540 |
| Kane, Abstract | 2519 |
| Barrett H. C. Marrarial of Walter Course Weelmough | 2025 |
| Raggatt, H. G. Memorial of Walter George Woolnough | 2035 |
| Rainwater, E. H. Review of Geological Highway Map of Texas, Compiled by Philip F. Oetking | 2020 |

2925

101

Ramsey, R. D. Stratigraphy of Amsden Formation in Wolf Springs-Delphia Area, Central Montana. Abstract Ratcliffe, J. D., and A. D. Hunt. Triassic Stratigraphy, Peace River Area, Alberta and British Columbia, Canada 563 Raton Basin and Sangre de Cristo Mountains, New Mexico, Distribution and Facies of Penn-1093 Rea, Henry Carter. Distinguished Lecture Tour 2740 Read, C. B., and R. L. Griggs. Geological Note on Revisions in Stratigraphic Nomenclature in Tucumcari-Sabinoso Area, Northeastern New Mexico. 2003 Read, John L., Jr. Geologic Case History of Slocum Dome, Anderson County, Texas 958 (Recent and Cretaceous) in Southern Florida, Limestone Conglomerates. Geological Note by Joseph E. Banks Recent Developments in Alaska. By W. B. Sherman and J. W. Watson. Abstract 1779 in Geophysics. By J. P. Woods. Abstract 1773 240, 487, 700, 901, 1086, 2021, 2246, 2505, 2729, 2785 Recent Publications Recent Sands of Northern Gulf Coast, Size, Sorting, Mineralogy, and Chemical Composition of. By K. Jinghwa Hsu. Abstract 2520 Redwater, Joffre, Lloydminster, and Pembina Oil Fields of Alberta and Saskatchewan, Canaada, Geochemical Aspects of Petroleum Migration in. By Gordon W. Hodgson and Bruce L. Baker 311 Reedy, Frank, Jr., and H. V. Tygrett. Report of Resolutions Committee 1482 Reeside, John Bernard, Jr. Memorial by W. A. Cobban 2530 Regional Geologic Interpretations of Aeromagnetic Profiles of Selected Areas in Alaska. By I. Zeitz, G. E. Andreason, and W. J. Dempsey. Abstract 260 Regional Magnetic Map of Florida. By Elizabeth R. King 2844 Reiter, Jesse O. Review of Hitchcock Field, Galveston County, Texas. Abstract . 2515 Relations of Certain Upper Jurassic and Lower Cretaceous Formations in Southwestern Oregon. By Ralph W. Imlay, Hollis M. Dole, Francis G. Wells, and Dallas Peck 2770 Relations of Lower Cretaceous and Upper Jurassic Rocks, Four Corners Area, Colorado. By E. B. Ekren and F. N. Houser 190 Renaud, J. E. Provost Gas Field, Alberta, Canada. Abstract . 1104 Renz, H. H. Discussion on San Lorenzo Formation (Agua Salada Group) of Eastern Falcon, Venezuela, a Valid Lithostratigraphic Name 2500 Repenning, Charles A., and Richard K. Hose. Stratigraphy of Pennsylvanian, Permian, and 2167 Lower Triassic Rocks of Confusion Range, West-Central Utah Report 6-Application of Stratigraphic Classification and Nomenclature to the Quaternary. American Commission on Stratigraphic Nomenclature. Prepared by Gerald M. Richmond (Discussion, 674) 663 Response to Sidney Powers Memorial Medal Award. By Raymond Cecil Moore 1741 Results of 1959 Nationwide Geology Examination Offered by United States Civil Service Com-2243 mission. Geological Note by R. E. Van Alstine Rettger, Robert E. Forty-Fourth Annual Meeting, Dallas, March 16-19, 1959, Tentative 250, 495 Program 259 Review of Cuyama Oil Province. By R. K. Cross. Abstract of Hitchcock Field, Galveston County, Texas. By Jesse O. Reiter. Abstract 2515 Revised Correlations of Lower Upper Devonian Rocks in Western and Central New York. By 2810 Wallace de Witt, Jr., and George W. Colton Revision of Big Snowy Group in Central Montana. By Louis S. Gardner 329 of Colorado Group on Sweetgrass Arch, Montana. By W. A. Cobban, C. E. Erdmann, 2786 R. W. Lemke, and E. K. Maughan of Stratigraphic Nomenclature of Green River Formation of Wyoming, Geological Note by W. H. Bradley 1072 Revisions in Stratigraphic Nomenclature in Tucumcari-Sabinoso Area, Northeastern New Mexico. Geological Note by R. L. Griggs and C. B. Read 2003 Richards, Horace G. Developments in Atlantic Coastal States Between New Jersey and South 1343 Carolina in 1958 Richmond, Gerald M. Report 6-Application of Stratigraphic Classification and Nomenclature to the Quaternary. American Commission on Stratigraphic Nomenclature. Pre-663 Riley, Charles M., et al. Chenier Plain and Its Stratigraphy, Southwestern Louisiana. Abstract 2520 1500 Rittenhouse, Gordon. There Is a Reason Roberts, M. C. Developments in Oklahoma in 1958

Robinson, C. S., W. J. Mapel, and W. A. Cobban. Pierre Shale Along Western and Northern Flanks of Black Hills, Wyoming and Montana

| Rocky Mountain Association of Geologists Symposium on Pennsylvanian Rocks of Colorado. By William Wyman Mallory. Abstract | 1, 1779 |
|---|--------------|
| Rocky Mountain Region, Stratigraphy and Conditions Governing Petroleum Occurrence in Lower Cretaceous Rocks. By John D. Haun, James A. Barlow, Jr., and C. R. Hammond. | , |
| Abstract | 1098 |
| Rocky Mountain Section, Meeting, Albuquerque, February 1-4, 1959. Abstracts | 1093 |
| , Ninth Annual Meeting, Albuquerque, February 1–4, 1959. By Henry S. Birdseye . Rod, Emile. West End of Serranía del Interior, Eastern Venezuela | 248 772 |
| Rodgers, John. Review of The Geology of The Ouachita Mountains—A Symposium, by Dallas | 112 |
| Geological Society and Ardmore Geological Society | 2019 |
| Rodgers, John, and Richard B. McConnell. Note 23—Need for Rock-Stratigraphic Units Larger Than Group. American Commission on Stratigraphic Nomenclature | 1971 |
| Rogers, John J. W., and Cyrus Strong. Textural Differences Between Two Types of Shoe- | |
| string Sands. Abstract Rold, J. W. New Windsor Oil Field, Dual Stratigraphic Trap. Abstract | 2516 1104 |
| Romanian Oil Fields, Thrust Faults and Ruptured Folds in. By Walter M. Small | 455 |
| Rudolph, John C. Geological Note on Bellshill Lake Field, Alberta | 880 |
| Russ, Leon Fair. Memorial by W. E. Wrather | 715 |
| Sabine Lake and Vicinity, Texas and Louisiana, Late Quaternary Geology of. By Henry E. | |
| Kane. Abstract Sacramento Valley, California, K-Feldspar Content of Jurassic and Cretaceous Graywackes | 2519 |
| of Northern Coast Ranges and, By Edgar H. Bailey and William P. Irwin | 2797 |
| , Eocene Gorge in Northern. By J. D. Frick, T. P. Harding, and A. W. Marianos. Ab- | |
| stract | 255 |
| stract | 1096 |
| St. John, F. B., Jr., and Tracy W. Lusk. Developments in Southeastern States in 1958 | 1331 |
| Salt-Dome Breccia, Discussion by Gordon I. Atwater and McLain J. Forman | 2725 |
| San Andres Limestone and Related Permian Rocks in Last Chance Canyon and Vicinity, Southeastern New Mexico. By Philip T. Hayes | 2197 |
| Sando, W. J., J. T. Dutro, Jr., and W. C. Gere. Brazer Dolomite (Mississippian), Randolph | |
| Quadrangle, Northeast Utah. | 2741 1419 |
| Sanford, B. V., and D. Jardine. Developments in Eastern Canada in 1958 | 1419 |
| and Permian Stratigraphy in. By Dudley W. Bolyard | 1896 |
| Sangre de Cristo Mountains and Raton Basin, New Mexico, Distribution and Facies of Penn- | 1093 |
| sylvanian Rocks of. By Elmer H. Baltz, Jr. Abstract | 1107 |
| , Four Corners Region, Pennsylvanian Oil Possibilities of. By Sherman A. Wengerd . | 2214 |
| San Lorenzo Formation (Agua Salada Group) of Eastern Falcon, Venezuela, a Valid Litho- | 2500 |
| stratigraphic Name. Discussion by H. H. Renz | 2500 |
| Scholl | 222 |
| Saskatchewan, Canada, Middle Devonian Sedimentation and Oil Possibilities, Central. By Ralph W. Edie | 1026 |
| Saskatchewan and Alberta, Canada, Geochemical Aspects of Petroleum Migration in Pem- | 1020 |
| bina, Redwater, Joffre, and Lloydminster Oil Fields of. By Gordon W. Hodgson and | |
| Bruce L. Baker Sass, Louis C. Report of Commissioner on American Commission on Stratigraphic Nomen- | 311 |
| clature | 1457 |
| Sass, Louis C., et al. Petroleum Developments in Africa in 1958 | 1625 |
| Saudi Arabia, Ghawar Oil Field. By Arabian American Oil Company Staff | 434 2470 |
| Schneider, Stephen J. Bay Sainte Elaine Oil Field, Southern Louisiana | 27/1/ |
| fornia | 222 |
| Scholten, Robert, Synchronous Highs: Preferential Habitat of Oil? | 1793 |
| bud County, Montana. Abstract | 1101 |
| Schwade, Irving T. Oil Basins of Peru. Abstract | 255 |
| Sedimentary Belts in Lagoon of Kapingamarangi Atoll. By Edwin D. McKee, John Chronic, and Estella B. Leopold | 501 |
| | 0.04 |

2927

Sedimentary Facies From Shallow Borings in Lower Mississippi Delta. By Francis P. Shepard and Robert R. Lankford 2051 Sedimentation of Some Springer Sandstone (Mississippian-Pennsylvanian) Reservoirs, Southern Oklahoma. By Lynn Jacobsen Sedimentation and Structure of Planulina-Abbeville Trend, South Louisiana. By Hunter C. 2518 Goheen, Abstract Sedimentology of South Texas, by Corpus Christi Geological Society. Review by William A. 2016 Petersen Severy, Clarence Luther, Honorary Member. By George I. McFerron Shepard, Francis P., and Robert R. Lankford. Sedimentary Facies From Shallow Borings in 1750 2051 Lower Mississippi Delta Sherman, W. B., and J. W. Watson. Recent Development in Alaska. Abstract Sherwin, M. W., et al. Report of Trustees of Research Fund 1458 Shoemaker, Eugene M., and William L. Newman. Moenkopi Formation (Triassic? and Triassic) in Salt Anticline Region, Colorado and Utah . 1835 Shrock, R. R. Educating Future Earth Scientists. Abstract. 1765 Siever, Raymond. Some Geochemical Factors in Cementation of Sandstones. Abstract Siller, C. W., et al. Discussion on Oil Exploration in Australia 2496 Silurian and Ordovician Stratigraphy and Sedimentation in Southern Manitoba, Canada. By John M. Andrichuk Size, Sorting, Mineralogy, and Chemical Composition of Recent Sands of Northern Gulf Coast. By K. Jinghwa Hsu. Abstract 2520 Skolnick, Herbert, and Robert E. Arnal. Geological Note on Ventura Basin Edge Environ-Slocum Dome, Anderson County, Texas, Geologic Case History of. By John L. Read, Jr. Small, Walter M. Thrust Faults and Ruptured Folds in Romanian Oil Fields 958 455 Smith, Norman C. Forty-Fourth Annual Meeting, Dallas, Texas, March 16-19, 1959. The 1437 Convention Society of Economic Paleontologists and Mineralogists. Financial Statement 709 Symposium, Atlantic City, April 25-26, 1960, Paleontological and Mineralogical Aspects of Polar Wandering and Continental Drift Some Geochemical Factors in Cementation of Sandstones. By Raymond Siever. Abstract 1765 Some Remaining Potentials of Northwest Colorado. By B. C. Bond. Abstract 1094 South America and Caribbean Area, Petroleum Developments in 1958. By E. W. Clark . 1518 1345 Southeastern States, Developments in 1958. By F. B. St. John, Jr., and Tracy W. Lusk South Mountain Oil Field, Bridge Pool of. By E. A. Hall and R. M. Grivetti. Abstract . 258 Southwestern Regional Meeting, October 8-10, Lubbock, Texas Special Publications and Guidebooks Published in 1958 by Societies Affiliated or Cooperating with American Association of Petroleum Geologists. Geological Note by William N 1735 Spooner, William Calvin, Honorary Member. By Claude N. Valerius Springer Sandstone (Mississippian-Pennsylvanian) Reservoirs, Southern Oklahoma, Sedimentation of Some. By Lynn Jacobsen . Stadia Surveying, Advantages of Large Constant "Rod Correction" in. Geological Note by Richard L. Threet Standards of Performance in Exploration. By Fred J. Agnich and R. C. Dunlap, Jr. Abstract Statistical Analysis of Regional Facies Change in Ordovician Cobourg Limestone in Northwestern New York and Southern Ontario. By L. Lippitt Statistics on Natural Gas Discoveries—1953. By B. W. Blanpied 2041 Stearn, Noel H., and Marshall Kay. Report of A.A.P.G. Directors of American Geological Institute 1454 Steele, Grant. Basin-and-Range Structure Reflects Paleozoic Tectonics and Sedimentation. Abstract 1105 Steinsalz und Kalisalze, by Franz Lötze; and Ozeane Salzlagerstätten, by Hermann Borchert. Review by Paul Weaver 2872 Stewart, H. B., Jr., and G. F. Jordan. Continental Slope Off Southwest Florida Stewart, John H. Stratigraphic Relations of Hoskinnini Member (Triassic?) of Moenkopi 974 Formation on Colorado Plateau . 1852 Stipe, Jack C., and Leonard L. Limes. Occurrence of Miocene Oil in South Louisiana. Abstract Stratigraphic Analysis of Winterburn and Wabamun Groups in Southern Alberta. By P. G.

| Stratigraphic Controls on Pennsylvanian Oil of Paradox Basin, Four Corners Region. By Sherman A. Wengerd. Abstract | 1778 |
|---|---------------------------|
| rado Plateau. By John H. Stewart . Stratigraphic Traps Along North Shelf of Anadarko Basin, Oklahoma. By J. Durwood Pate Stratigraphy of Amsden Formation in Wolf Springs-Delphia Area, Central Montana. By | 1852 |
| R. D. Ramsey. Abstract | 1103 1064 2623 |
| of La Honda and San Gregorio Quadrangles. By R. M. Touring. Abstract of Northwestern Part of Wind River Basin, Dubois Area, Wyoming. Discussion by William R. Keefer | 257 |
| of Pennsylvanian, Permian, and Lower Triassic Rocks of Confusion Range, West-Central Utah. By Richard K. Hose and Charles A. Repenning. Stratigraphy and Depositional Tectonics of North Yukon-Lower Mackenzie Area, Canada. | 2167 |
| By L. J. Martin Stratigraphy, Sedimentation, and Seismology. By H. M. Thralls. Abstract Stringer, K. V., et al. Major Gas Fields of West Pakistan | 2399 1774 2675 |
| Strong, Cyrus, and John J. W. Rogers. Textural Differences Between Two Types of Shoestring Sands. Abstract Structural Control Related to Stratigraphic Traps, Piceance Creek Basin, Colorado. By V. E. | 2516 |
| Peterson. Abstract | 1102 1778 |
| F. G. Fox Suman, John R. Memorial of Bernard Hugo van der Linden Summary of Jurassic Stratigraphy of Alaska. By M. V. Kirk. Abstract Survey of College Students Majoring in Geology. By American Geological Institute | 992 919 260 1079 |
| Sutterlin, P. G. Stratigraphic Analysis of Winterburn and Wabamun Groups in Southern Alberta. Abstract Sutton, Robert G. Geological Note on Use of Flute Casts in Stratigraphic Correlation Swarzenski, Wolfgang V. Geological Note on Determination of Chloride in Water from Core | 1105 230 |
| Samples Sweetgrass Arch, Montana, Revision of Colorado Group on. By W. A. Cobban, C. E. Erdmann, R. W. Lemke, and E. K. Maughan Synchronous Highs: Preferential Habitat of Oil? By Robert Scholten | 1995 2786 1793 |
| Tabasaranskii, et al. Geochemical Methods of Prospecting and Exploration for Petroleum and Natural Gas. Review by R. D. McIver. Tainsh, H. R., K. V. Stringer, and J. Azad. Major Gas Fields of West Pakistan Techniques of Prediction with Applications to Petroleum Industry. By M. King Hubbert. | 2726 2675 |
| Abstract Tennessee, Oil and Gas Developments in 1958. By H. C. Milhous Tertiary Age, Coahuila, Mexico, Difunta Strata of. Geological Note by Grover E. Murray, | 1767 1181 |
| James A. Wolleben, and Donald R. Boyd Texas, Biostratigraphic and Paleoecologic Study of Midway Foraminifera Along Tehuacana Creek, Limestone County. By Gene Ross Kellough. Abstract Coastal Bays and Laguna Madre, Macro-Invertebrate Assemblages of Central. By | 2493 2517 |
| Robert H. Parker —————————————————————————————————— | 2100 1293 |
| gorda and Jackson Counties. By John E. Walters. Abstract | 2514 2515 |
| , Frio Formation of the Upper Gulf Coast of, by Houston Geological Society Study Group. Review by Alva C. Ellisor | 2245 958 |
| Geological Highway Map of, Compiled by Philip F. Oetking. Review by E. H. Rainwater Geology and Geophysics of Cooke-Grayson Counties, by Dallas Geological and Geo- | 2020 |
| physical Societies. Review by Geraldine W. Werdig and Sherman A. Wengerd — Gulf Coast, Frio Formation of Upper. By L. Bruce Forney, Chairman, Houston Geological Society Study Group. Abstract | 485 2513 |

| - Gulf Coast, Nodosaria Sand Environments in Eastern Counties of. By James A. | |
|--|--------------|
| Mallory. Abstract . — Gulf Coast, Upper Frio Lithofacies in Eastern Counties of. By Thomas Branham, | 2514 |
| John Grayshon, and Robert Johnson. Abstract ———————————————————————————————————— | 2514 |
| Others in Northwestern Brazoria County. By Ralph B. Cantrell, J. C. Montgomery, and A. E. Woodard. Abstract | 2515 |
| ——, Montoya Group Stratigraphy (Ordovician) of Trans-Pecos. By Herbert J. Howe ——, North, Developments in 1958. By J. H. Bass | 2285 1266 |
| ——, North, Oil Accumulation Related to Geologic History of Muenster Arch and Associated Basins in. By H. H. Bradfield. Abstract | 1775 |
| ——, North-Central, Problems of Stratigraphic Nomenclature and Classification, Upper Pennsylvanian. Discussion by L. F. Brown, Jr. | 2866 |
| Review of Hitchcock Field, Galveston County. By Jesse O. Reiter. Abstract Shoreline, Origin and Development of. By Rufus J. LeBlanc and W. D. Hodgson. | 2515 2519 |
| Abstract —, South, Developments in 1958. By J. A. Matthews, H. H. Felsted, and H. W. Deschner —, South, Sedimentology of, by Corpus Christi Geological Society. Review by William A. | 1283 |
| Petersen | 2016 2623 |
| South-Central, Stratigraphy of Jackson Group (Eccene). By D. Hoye Eargie ————, Southwest, Petrology of Anacacho Limestone of. By Lee L. Harvill. Abstract | 2521 |
| , Turtle Bay Field, Chambers County. By R. P. Akkerman. Abstract | 2515 |
| ——, Upper Gulf Coast of, Developments in 1958. By A. D. Brixey, Jr., and M. R. Yust ——, West, Genesis of "Haymond Boulder Beds," Marathon Basin. Discussion by W. Ellis | 1304 |
| Hall . ——, West, Permian Basin (1919–1925), Early Prospecting in. By Ben C. Belt. Abstract | 238 1772 |
| West, Perman Basin (1919-1925), Early Prospecting in: By Ben C. Ben. Abstract West-Central, Developments in 1958. By R. P. Norris | 1276 |
| Texas and Louisiana, Late Quaternary Geology of Sabine Lake and Vicinity. By Henry E. | |
| Kane, Abstract | 2519 |
| Texas and Oklahoma Panhandles, Developments in 1958. By Maynard G. Christenson | 1235 |
| Texas, Louisiana, and Mississippi, Interior Salt Domes of. By G. C. Clark. Abstract Texas-New Mexico, Delaware and Val Verde Basins. By C. D. Vertrees, Glen Egans, and | 1776 |
| C. Hayden Atchison. Abstract | 1777 |
| Texas, West, and Southeastern New Mexico, Developments in 1958. By Bernold M. Hanson, et al. | 1248 |
| Textural Differences Between Two Types of Shoestring Sands. By John J. W. Rogers and Cyrus Strong, Abstract | 2516 |
| Thames, Clement B., Jr. Facies Relationships in Mississippian of Williston Basin and Their | |
| Effects Upon Fluid Migration. Abstract | 1106 |
| There Is a Reason. By Gordon Rittenhouse. Thom, William Taylor, Jr., Honorary Member. By Orval L. Brace. | 1500 1754 |
| Thomas, G. D., H. D. Hedberg, and M. W. Sherwin. Report of Trustees of Research Fund | 1458 |
| Thompson, John P. Memorial of Thomas Earl Davie | 2524 |
| Thompson Lake—Bellshill Lake Cretaceous Oil Fields, Alberta. By Ralph W. Edie. Abstract Thornwell Field, Jefferson Davis and Cameron Parishes, Louisiana. By Frank R. Hardin. | 1095 |
| Abstract | 2518 |
| Thralls, H. M. Stratigraphy, Sedimentation, and Seismology. Abstract. Threet, Richard L. Geological Note on Advantages of Large Constant "Rod Correction" in | 1774 |
| Stadia Surveying | 1075 455 |
| Touring, R. M. Stratigraphy of La Honda and San Gregorio Quadrangles. Abstract | 257 |
| Transfer, a Synthesis of Stratigraphic Processes. Geological Note by John Andrew Wilson | 2861 |
| Travis, Maury M. Challenge to Oil Exploration Management. Abstract | 1781 |
| Triassic Stratigraphy, Peace River Area, Alberta and British Columbia, Canada. By A. D. Hunt and J. D. Ratcliffe. | 563 |
| Triassic, Lower, Pennsylvanian, and Permian Rocks of Confusion Range, West-Central Utah, Stratigraphy of. By Richard K. Hose and Charles A. Repenning Trowbridge, A. C. Discussion of Report 6—Application of Stratigraphic Classification and | 2167 |
| Nomenclature to the Quaternary. American Commission of Stratigraphic Nomenclature. | |
| Prepared by | 674 |
| ———. Honorary Member. By Gordon I. Atwater Trump, Robert P., and H. W. Patnode. Geological Note on Addition of Perspective to Contour | 1756 |
| Maps | 2009 |

| Tucker, R. C. Oil and Gas Developments in West Virginia in 1958 | 1169 |
|---|--------------|
| Maxwell | 270: |
| Turnbow, Dix R. Mississippian of Four Corners Region. Abstract | 1100 |
| Turner, Roy W., and Otto Hackel. Geology and Oil in Ventura Basin East of San Gabriel | |
| Fault. Abstract | 254 |
| Turtle Bay Field, Chambers County, Texas. By R. P. Akkerman. Abstract | 2513 |
| Tygrett, H. V., and Frank Reedy, Jr. Report of Resolutions Committee | 1482 |
| Tyrrell, Willis W., Jr. Dakota Stratigraphy in San Juan Basin. Abstract | 1107 |
| Tyricii, Willis W., Jr. Dakota Straugraphy in Sair Juan Basii. Abstract | 110 |
| Uniformitarianism—or Unconformity. Geological Note by W. C. Bell | 2862 |
| Fentress | 1991 |
| Upper Cretaceous of Central Chiapas, Mexico. By L. J. Chubb. Upper Frio Lithofacies in Eastern Counties of Texas Gulf Coast. By Thomas Branham, John | 725 |
| Grayshon, and Robert Johnson. Abstract Upper Mississippian-Lower Pennsylvanian Stratigraphy of Central Montana and Williston | 2514 |
| Basin. By Ronald P. Willis | 1940 |
| Use of Carbon Isotope Analyses of Carbonates for Differentiating Fresh-Water and Marine Sediments. Geological Note by Robert N. Clayton and Egon T. Degens | 890 |
| Use of Flute Casts in Stratigraphic Correlation. Geological Note by Robert G. Sutton Utah, Cache County, Geologic Atlas of, by J. Stewart Williams. Review by Martin Van | 230 |
| Couvering | 898 |
| J. T. Dutro, Jr., and W. C. Gere | 2741 |
| — , Stratigraphy of Deep Creek Mountains. Geological Note by Kenneth F. Bick , West-Central, Stratigraphy of Pennsylvanian, Permian, and Lower Triassic Rocks of | 1064 |
| Confusion Range. By Richard K. Hose and Charles A. Repenning | 2167 2636 |
| , White Mesa Field, Environmental Trap, Paradox Basin. By M. Dane Picard. Ab- | |
| Stract | 1103 |
| —, White Mesa Field, Environmental Trap, San Juan County. By M. Dane Picard Utah and Colorado, Moenkopi Formation (Triassic? and Triassic) in Salt Anticline Region. By Eugene M. Shoemaker and William L. Newman | 2456 1835 |
| Utah and Nevada, Oil and Gas Developments in 1958. By D. A. Preston and Graham S. Camp- | 1364 |
| bell | 1304 |
| Valerius, Claude N. William Calvin Spooner, Honorary Member | 1752 |
| Vallecitos Area, Geology of. By Donald M. Davis. Abstract | 253 |
| C. Hayden Atchison. Abstract | 1777 |
| Van Alstine, R. E. Geological Note on Results of 1959 Nationwide Geology Examination Offered by United States Civil Service Commission | 2243 |
| Van Couvering, Martin. Review of Geologic Atlas of Utah, Cache County, by J. Stewart Williams | 898 |
| Review of Guidebook of the Black Mesa Basin, Northeastern Arizona, by New Mexico | |
| Geological Society in Cooperation with Arizona Geological Society | 697 |
| van den Berg, Jacob, and Alfred H. Bell. Developments in Illinois in 1958 | 1183 |
| van der Linden, Bernard Hugo. Memorial by John R. Suman | 919 |
| Van Tuyl, F. M., et al. Committee on Code of Ethics | 1477 |
| Vaughn, Richard L. Memorial of Dennis Leonard Halepeska | 913 |
| | |
| Venezuela, Eastern, West End of Serranía del Interior. By Emile Rod | 772 |
| Oil-Coal Association in Central Anzoátegui. Geological Note by Luis M. Banks , San Lorenzo Formation (Agua Salada Group) of Eastern Falcon, a Valid Litho- | 1998 |
| stratigraphic Name. Discussion by H. H. Renz Ventura Basin East of San Gabriel Fault, Geology and Oil in. By Otto Hackel and Roy W. | 2500 |
| Turner. Abstract | 254 |
| Ventura Basin Edge Environment. Geological Note by Herbert Skolnick and Robert E. Arnal | 477 |
| Vermont and New York, Ordovician Chazyan Series of Champlain Valley, and Its Reefs. By | 817 |
| Philip Oxley and Marshall Kay . Vertrees, C. D., Glen Egans, and C. Hayden Atchison. Delaware and Val Verde Basins, | 01/ |
| Texas-New Mexico. Abstract | 1777 |

| Wabamun and Winterburn Groups in Southern Alberta, Stratigraphic Analysis of. By P. G. | |
|---|------|
| Sutterlin. Abstract | 1105 |
| Waldschmidt, W. A. Diagenesis and Paragenesis in Limestones and Dolomites. Abstract | 1766 |
| Walker, Terry. Log Interpretation in Brackish-Water Frio Trend. Abstract | 2515 |
| Walker, Theodore R. Geological Note on Fossiliferous Marine Redbeds in Minturn Formation | 10/0 |
| (Des Moines) Near McCoy, Colorado | 1069 |
| Marine Redbeds in Central Colorado Basin. Abstract | 1107 |
| Walters, John E. Effect of Structural Movement of Sedimentation in Pheasant-Francitas | 2514 |
| Area, Matagorda and Jackson Counties, Texas. Abstract | 2514 |
| Ware, John M., et al. Committee on Code of Ethics | 1477 |
| Washington, Continental Sediments of Miocene Age in Puget Sound Lowland. Geological Note by D. R. Mullineaux, L. M. Gard, and D. R. Crandell | 600 |
| Watson, J. W., and W. B. Sherman. Recent Developments in Alaska. Abstract | 688 |
| Weaver, C. E., et al. Investigations in Radioactivity-Dating of Sediments | 654 |
| Weaver, Charles Edwin, Memorial by Charles V. Fulmer | 1110 |
| Weaver, Paul. Geophysics, Geology, and Economics in Deep Fields. Abstract | 1774 |
| Review of Geology and Petroleum—Natural Gas Occurrences in the Eastern Foreland | 1117 |
| of the Caucasus, edited by I. O. Brod | 2873 |
| Review of Steinsalz und Kalisalze, by Franz Lötze; and Ozeane Salzlagerstätten, by | 2010 |
| Hermann Borchert | 2872 |
| Webb, E. A., et al. Discussion on Oil Exploration in Australia | 2496 |
| Weeks, Lewis G. Geologic Architecture of Circum-Pacific | 350 |
| Weller, J. Marvin. Compaction of Sediments | 273 |
| Wells, Francis G., et al. Relations of Certain Upper Jurassic and Lower Cretaceous Formations | |
| in Southwestern Oregon | 2770 |
| Wengerd, Sherman A. Guide to the Preparation and Disposition of Manuscripts for Publica- | |
| tion in the Bulletin | 202 |
| Pennsylvanian Oil Possibilities of San Juan Basin, Four Corners Region | 2214 |
| Pennsylvanian Paleogeology and Search for Oil in Lucero Basin, Central New Mexico. | |
| Abstract | 1108 |
| Report of Editor | 1449 |
| Stratigraphic Controls on Pennsylvanian Oil of Paradox Basin, Four Corners. Ab- | |
| stract | 1778 |
| Wengerd, Sherman A., and Geraldine W. Werdig. Review of the Geology and Geophysics of | |
| Cooke-Grayson Counties, Texas, by Dallas Geological and Geophysical Societies | 485 |
| Werdig, Geraldine W., and Sherman A. Wengerd. Review of the Geology and Geophysics | |
| of Cooke-Grayson Counties, Texas, by Dallas Geological and Geophysical Societies. | 485 |
| West Coast Area, Developments in 1958. By H. L. Popenoe | 1389 |
| West End of Serranía del Interior, Eastern Venezuela. By Emile Rod | 772 |
| West Virginia, Oil and Gas Developments in 1958. By R. C. Tucker | 1169 |
| Wheatley, G. Y., and T. H. Braun. New Approach to Dipmeter Computation. Abstract. 259, | 1095 |
| Wheeler, Harry E. Note 24—Unconformity-Bounded Units in Stratigraphy. American Com- | 1075 |
| mission on Stratigraphic Nomenclature | 1975 |
| White, Wm. H. Cordilleran Tectonics in British Columbia | 1103 |
| White Mesa Field, Environmental Trap, Paradox Basin, Utah. By M. Dane Picard. Abstract | 2456 |
| ——, Environmental Trap, San Juan County, Utah. By M. Dane Picard Wilcox, Middle, Near Yoakum, Lavaca County, Texas. Erosional Channel in. By William V. | 2430 |
| Hoyt. Abstract | 2515 |
| Williams, George Q. Developments in North Mid-Continent in 1958 | 1208 |
| Williamson, J. D. M. Gulf Coast Cenozoic History. Abstract | 2513 |
| Williams, J. Stewart, Geologic Atlas of Utah, Cache County. Review by Martin Van Couvering | 898 |
| Willis, Ronald P. Upper Mississippian-Lower Pennsylvanian Stratigraphy of Central Montana | |
| and Williston Basin | 1940 |
| Williston Basin at Poplar and North Tioga Fields, Examples of Hydrodynamics in. By | |
| George H. Murry, Ir. Abstract | 1102 |
| Williston Basin, Facies Relationships in Mississippian of, and Their Effects Upon Fluid Migra- | |
| tion. By Clement B. Thames, Jr. Abstract | 1106 |
| , Madison Group Stratigraphy and Nomenclature in Northern. By Andrew R. Fish and | |
| and John C. Kinard. Abstract | 1097 |
| Williston Basin and Adjacent Areas, Lower Paleozoic Rocks of Northern. By J. W. Porter and | |
| and J. G. C. M. Fuller | 124 |
| Williston Basin and Central Montana, Upper Mississippian-Lower Pennsylvanian Stratigra- | |
| phy of. By Ronald P. Willis | 1940 |

| Wilson, John Andrew. Geological Note on Transfer, a Synthesis of Stratigraphic Processes . Wind River Basin, Dubois Area, Wyoming, Stratigraphy of Northwestern Part of. Discussion | 286 |
|---|------|
| | 108 |
| Wines, Donald Bradford, Memorial by Kent T. Kimball | 111. |
| Winterburn and Wabamun Groups in Southern Alberta, Stratigraphic Analysis of. By P. G. | |
| Sutterlin Abstract. Wolf Springs-Delphia Area, Central Montana, Stratigraphy of Amsden Formation in. By | 110. |
| Wolf Springs-Delphia Area, Central Montana, Stratigraphy of Amsden Formation in. By | |
| R. D. Ramsey. Abstract . Wolleben, James A., et al. Geological Note on Difunta Strata of Tertiary Age, Coahuila, | 110. |
| Worker James A., et al. Geological Note on Dirunta Strata of Tertiary Age, Coanulla, | 249. |
| Mexico . Woodard, A. E., et al. Heteroslegina Reef on Piercement Salt Domes, with Special Reference to | 249 |
| Nash and Others in Northwestern Brazoria County, Texas. Abstract | 2515 |
| Woods, J. P. Recent Developments in Geophysics. Abstract | 1773 |
| Woolnough, Walter George. Memorial by H. G. Raggatt | 2033 |
| Woolson, John R. Geophysical Exploration in Northern Alaska, Abstract | 260 |
| Wrather, W. E. Memorial of Leon Fair Russ | 715 |
| Wyoming, Brooks Ranch Oil Field, Natrona and Converse Counties. By Marvin A. Buskala. | |
| Abstract | 1095 |
| Complex Entrapment at Sage Creek Field, Big Horn Basin. By N. C. Elmer. Abstract | 1096 |
| — , Desert Springs Gas Field, Sweetwater County. By John N. Dahm. Abstract | 1095 |
| ——, East-Central, Facies of Mesaverde Formation, By John R. Barwin, Abstract ——, Oil Potential of Minnelusa Formation, Powder River Basin, By Donald I. Foster. | 1094 |
| Abstract | 1097 |
| , Revision of Stratigraphic Nomenclature of Green River Formation of Geological | 1021 |
| Note by W. H. Bradley | 1072 |
| , Stratigraphy of Northwestern Part of Wind River Basin, Dubois Area. Discussion by | |
| William R. Keefer | 1080 |
| Wyoming and Idaho, Developments in 1958. By Eugene C. Eaton | 1356 |
| Wyoming and Montana, Pierre Shale Along Western and Northern Flanks of Black Hills. By | 101 |
| C. S. Robinson, W. J. Mapel, and W. A. Cobban | 101 |
| Yeckl, George N., and William H. LeRoy. Geology of North Tejon Field. Abstract | 252 |
| Yukon, North,-Lower Mackenzie Area, Canada, Stratigraphy and Depositional Tectonics of. | 202 |
| By L. I. Martin | 2399 |
| Yust, M. R., and A. D. Brixey, Ir. Developments in Upper Gulf Coast of Texas in 1958 | 1304 |
| Yzaguirre, Lauro A. Petroleum Geology of Anahuac and Frio Formations of Northeastern | |
| Mexico. Abstract | 1775 |
| Zeitz, I., G. E. Andreason, and W. J. Dempsey. Regional Geologic Interpretations of Aero- | |
| magnetic Profiles of Selected Areas in Alaska. Abstract | 260 |
| Zeller, Robert A., Jr. Geologic Controls in Oil and Gas Exploration in Southwestern New | 200 |
| Mexico and Southeastern Arizona. Abstract | 1109 |
| | |

BULLETIN

of the

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

G. E. MURRAY, Editor

LOUISIANA STATE UNIVERSITY, BATON ROUGE, LOUISIANA

ASSOCIATE EDITORS

GENERAL

APPALACHIANS NORTH CENTRAL STATES KANSAS OKLAHOMA-Western Eastern TEXAS—North and Central Northeastern

San Antonio Permian Basin TEXAS GULF COAST

LOUISIANA GULF COAST EASTERN GULF COAST ARKANSAS & N. LOUISIANA ROCKY MOUNTAINS

PACIFIC COAST-NEVADA-ARIZONA-NEW MEXICO ALASKA EASTERN CANADA WESTERN CANADA MEXICO-CENT. AMERICA SOUTH AMERICA EUROPE MIDDLE EAST FAR EAST

ASSOCIATE EDITORS

R. W. LANDES, Jersey Prod. Research Co., 1133 N. Lewis, Tulsa, Okla. K. C. HEALD, 695 Continental Life Building, Fort Worth 2, Tex. M. KING HUBBERT, V. S. Geological Survey, Washington 25, D. C. L. N. ETTLETON, Geophysical Associated International, Houston, Tex. HUGH D. MISER, U. S. Geological Survey, Washington 25, D. C. THERON WASSON, Pure Oil Company, 35 E. Wacker Drive, Chicago I, Ill. ALBERT I, INGHAM, Peoples Natural Gas Company, Pittsburgh, Pa. EDWARD J. COMBS, Sun Oil Company, Evansville, Ind. ROBERT F. WALTERS, \$10 Orpheum Building, Wichita 2, Kan. CARL C. BRANSON, University of Oklahoma, Norman, Okla. MYRON C. KIESS, Schermerhorn Oil Corporation, Box 287, Tulsa 1, Okla. RICHARD H. SCHWEERS, Texaco Inc., Fort Worth, Tex. THOMAS H. SHELBY, JR., Humble Oil & Rig. Co., Box 2025, Tyler, Tex. JOHN R. SANDIDGE, Mobil Oil Company, San Antonio 5, Tex. THEODORE S. JONES, Union Oil Company of California, Midland, Tex. RICHARD L. DENHAM, Humble Oil & Rig. Co., Box 2180, Houston, Tex. RAY C. LeWIS, Highland Oil Co., 1201 San Jacinto Bidg., Houston, Tex. HAROLD N. HICKEY, The California Company, New Orleans 12, La. TOM McGLOTHLIN, Box 996, Laurel, Miss. B. W. BLANPIED, Drawer 1731, Guif Oil Corporation, Shreveport 93, La. T. C. HIESTAND, 2769 South Monroe St., Denver 10, Colo. JOHN M. PARKER, \$18 Patterson Bidg., Denver 2, Colo. WILLIAM LEE STOKES, University of Utah, Salt Lake City, Utah JOHN C. HAZZARD, Union Oil Company of California, Los Angeles, Calif. W. R. MORAN, Union Oil Company of California, Los Angeles, Calif. GEORGE O. GATES, U. S. Geol. Survey, 4 Homewood Pl., Mealo Park, Calif. JOHN F. CALEY, Geological Survey of Canada, Ottawa, Ontario J. B. WEBB, Alminex Limited, Suite 609, 320 7th Ave. S.W., Calgary, Alberta E. J. GUZMAN, Petrioleos Mexicanos, Humboldt \$5, 4*Piso, México, DF. ROBERT E. KING, Amer. Overseas Petrol., Ltd., 485 Lexington Ave., NY, 17 HENRY HOTCHKISS, Rm. 2752, 30 Rockefeller Plaza, New York 20 G. F. KAUFMANN, Dogwood Drive, R.D. I, Box 312, Vorktown Heights, N.Y.

VOLUME 43, PART I JANUARY—JUNE, 1959, PAGES 1-1496

PUBLISHED MONTHLY

COPYRIGHT 1959 BY THE AMERICAN ASSOCIATION OF Petroleum Geologists

ASSOCIATION HEADQUARTERS, BOX 979, TULSA 1, OKLAHOMA

Composed and printed by George Banta Company, Inc. Menasha, Wisconsin, U.S.A.

THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, INC.

OFFICERS FOR THE YEAR ENDING APRIL, 1960

L. G. Weeks, President, Westport, Conn. H. T. Morley, Secv.-Treas., Tulsa, Okla.

A. H. Bell, Vice-President, Urbana. Ill. G. E. Murray, Editor, Baton Rouge, La.

The foregoing officers and the Past-President, G. S. Buchanan, Cody, Wyo., constitute the Executive Committee

DISTRICT REPRESENTATIVES

(Terms expire after annual meetings of years shown in parentheses)

(Terms expire after annual meeti Abilene (Tex.): R. R. Bloomer (60), W. N. Tindell (61) ALBERTA (Calgary): D. B. Bullock (60), J. L. Carr (60), J. A. Downing (61), O. A. Erdman (61), A. W. Farmilo (61), H. G. Gammell (60), S. A. Kerr (61) APPALACEHAN: A. S. Cate (61), G. S. Shearrow (61) ANDINGE (Okla.): L. R. Riley (60) AUSTIN (Tex.): P. T. Flawn (61) BARTLESVILLE (Okla.): W. M. Schulz (60) BATON ROUGE (La.): D. C. Draffen, Jr. (60) BILLINGS (Mont.): H. L. Garrett (61), R. M. Model (60) CAPITAL (Wash.): E. A. Finley (61), D. M. Kinney (60) COLOMBIA: C. T. Spalding (60) CORPUS CRIESTI (Tex.): H. M. Janszen (60), J. A. O'Brien (61), W. H. Wallace, Jr. (60) DAKOTA, J. R. Dyer (61) DALLAS (Tex.): E. W. Hard (60), W. B. Heroy, Jr. (61), R. N. Kolm (61), A. M. Lloyd (60), M. F. Reedy, Jr. (60)

(60) (60)
DENVER (Colo.): D. R. Callier (61), E. K. Droullard (61),
E. G. Griffith (61), J. G. Mitchell (60), W. R. Oates
(61), C. L. Severy (60), D. S. Turner (60), R. J.
Weimer (61)
DURANGO (Colo.): D. T. Gibson (60), Mark Guinan (61)
EAST TEXAS (Tyler): D. A. Mabra, Jr. (61)
FORT WORTH (Tex.): Russell Farmer (61), M. D. Mauck

(61)
FOUR CORNERS: Frank Devlin (61)
HOUSTON (Tex.): M. D. Bennett (60), W. K. Clark (60),
H. F. Fowler (61), L. C. Gravis (60), T. D. Hedley
(60), O. S. Hervey (61), O. G. Lundstrom (60), J. D.
Marsh (61), M. S. Roberts (60), S. M. Udden (61),
G. F. Wattord (61), J. M. Whatley (60)
ILLINOIS: E. E. Rue (61), L. L. Whiting (60)
INDIANA-KENTUCKY: J. D. Van Fossen (61)
INTERMOUNTAIN (Utah): E. B. Heylmun (61), M. Van
COUVERING (61), W. M. Woodward (60)
KANSAS: M. F. Bear (61), D. L. Hellar (60), R. P. Lehinan
(61), D. W. Payne (60)
KANSAS: M. F. Grain (60), R. H. Ogden (61)
LIBERAL (Kan.): W. R. King, Jr. (61)

gs of years shown in parentheses)

Los Angeles: J. B. Anderson (61), R. E. Faggioli (60),
G. H. Feister (60), R. R. Knapp (61), L. J. Simon
(60), A. F. Woodward (61)

MISSISSIPPI: A. E. Blanton (60), L. C. Powell (61)

MISSISSIPPI: A. E. Blanton (60), L. C. Powell (61)

NEW ORLEANS: L. Bowling (61), L. H. Harvey (60), H. N.

Hickey (60), T. H. Philpott (61)

NEW YORK: C. H. BEHEE (60), A. Cree (61), H. Hotchkiss (60), B. F. Uhl (60)

NORTH CENTRAL: W. M. Furnish (60)

NORTH CENTRAL: W. M. Furnish (60)

NORTHERNAS: D. R. Fellows (60), H. J. Fitzgeorge (61)

NORTHERNACI T. F. Culp (61), F. T. Damon (60),

W. E. McMurtry (60), H. J. Reedy (60), R. M. Riggs (61)

PANHANDLE: S. G. Hardison (61), P. H. Horn (60)

ROSWELL (N. M.): T. L. Ingram (60), R. E. Murphy (61)

SAN JOAQUIN (Calif.): H. G. Billman (61), K. F. Krammes
(60)

(60)
SANTA BARBARA (Calif.): J. F. Curran (60)
SASKATCHEWAN (Canada): D. R. Francis (61)
SHAWNEE (Olka.): F. J. Smith (60)
SHEWNEE (Olka.): F. N. Blanchard, Jr. (61), W. H. Marshall (60), H. J. Tyler (60)
SOUTH LOUSIANA: T. A. Freund (60)
SOUTH TEXAS (San Antonio): R. M. Knebel (61), J. S.

Rives (61)
SOUTHEASTERN: D. J. Munroe (60)
TULBA (Okla.): G. W. Caylor (60), J. L. Ferguson (61), A. Goldstein, Jr. (60), E. P. Neal (60), H. J. Schaetti (61), H. M. Thralls (61)
VENEZUELA (Caracas): J. B. Klecker (61), E. Rod (60), G. A. Young (60)
WEST TEXAS (Midland): R. W. Bybee (60), T. M. Culbertson (61), B. M. Hanson (61), A. H. Hedden (60), W. G. Moxey (60), N. M. Requist (61), E. Riddle, Jr. (60), W. W. Roye (61)
WYOMING (Casper): G. L. Goodin (60), J. H. Wiese (61)

DIVISION REPRESENTATIVES

Paleontology and Mineralogy: Samuel P. Ellison, Jr. (50), Austin, Texas; John Imbrie (60), New York, N.Y.

CONTENTS OF VOLUME 43 (1959), PART I

(MAJOR ARTICLES, NOTES, AND DISCUSSIONS)

NUMBER 1 (IANUARY)

| Practical Petrographic Classification of Limestones, Robert L. Folk | 1 |
|--|-----|
| Stratigraphic Traps Along North Shelf of Anadarko Basin, Oklahoma, J. Durwood Pate | 39 |
| Cordilleran Tectonics in British Columbia, Wm. H. White | 60 |
| Pierre Shale Along Western and Northern Flanks of Black Hills, Wyoming and Montana, | |
| C. S. Robinson, W. J. Mapel, and W. A. Cobban | 101 |
| Lower Paleozoic Rocks of Northern Williston Basin and Adjacent Areas, J. W. Porter and | |
| J. G. C. M. Fuller | 124 |

| Relations of Lower Cretaceous and Upper Jurassic Rocks, Four Corners Area, Colorado, | 100 |
|--|------------|
| E. B. Ekren and F. N. Houser Guide to the Preparation and Disposition of Manuscripts for Publication in the Bulletin, | 190 |
| Sherman A. Wengerd | 202 |
| Dual Classification of Faults, Mason L. Hill Exposures of San Onofre Breccia on Anacapa Island, California, D. W. Scholl | 217 222 |
| Problems of Paleozoic Tectonics in North-Central and Northeastern Mexico, Peter T. Flawn | 222 |
| and Teodoro Diaz G | 224 |
| and Teodoro Diaz G. Use of Flute Casts in Stratigraphic Correlation, Robert G. Sutton Genesis of "Haymond Boulder Beds," Marathon Basin, West Texas, W. Ellis Hall | 230 238 |
| Genesis of "Haymond Boulder Beds," Marathon Basin, West Texas, W. Estis Hatt | 238 |
| Management of the Control of the Con | |
| NUMBER 2 (FEBRUARY) | |
| Compaction of Sediments, J. Marvin Weller | 273 |
| Geochemical Aspects of Petroleum Migration in Pembina, Redwater, Joffre, and Lloyd-minster Oil Fields of Alberta and Saskatchewan, Canada, Gordon W. Hodgson and | 211 |
| Bruce L. Baker Revision of Big Snowy Group in Central Montana, Louis S. Gardner Geologic Architecture of Circum-Pacific, Lewis G. Weeks | 311 |
| | 350 |
| Productive and Prospective Petroliferous Zones Within Tectonic Framework of Japan and | 201 |
| Adjacent Areas, Godfrey F. Kaufmann Oil Exploration in Australia, P. E. Playford and M. H. Johnstone Ghawar Oil Field, Saudi Arabian, Arabian American Oil Company Staff Thrust Faults and Ruptured Folds in Romanian Oil Fields, Walter M. Small | 381 397 |
| Ghawar Oil Field, Saudi Arabia, Arabian American Oil Company Staff | 434 |
| Thrust Faults and Ruptured Folds in Romanian Oil Fields, Walter M. Small | 455 |
| Magnesium in Crude Oils of Western Canada, Bruce L. Baker and Gordon W. Hodgson | 472 477 |
| Voltata Dabii Dage Entrioniment, introve Diometri one Room 22. 11 nov | |
| \(\frac{1}{2}\) | |
| NUMBER 3 (MARCH) | |
| Part I | |
| Sedimentary Belts in Lagoon of Kapingamarangi Atoll, Edwin D. McKee, John Chronic, and | *** |
| Estella B. Leopold . Triassic Stratigraphy, Peace River Area, Alberta and British Columbia, Canada, A. D. Hunt | 501 |
| and J. D. Ralcliffe | 563 |
| Lower Cretaceous of Southern Alberta and Adjoining Areas, R. Perry Glaister | 590 |
| First-Order Nappe in Canadian Rockies, G. G. L. Henderson and C. D. A. Dahlstrom. Investigations in Radioactivity-Dating of Sediments, S. S. Goldich, H. Baadsgaard, G. Ed- | 641 |
| wards, and C. E. Weaver | 654 |
| Report 6-Application of Stratigraphic Classification and Nomenclature to the Quaternary | |
| American Commission on Stratigraphic Nomenclature, Committee on Pleistocene, Gerald M. | 663 |
| Richmond, chairman Discussion of Report 6—Application of Stratigraphic Classification and Nomenclature to | 003 |
| the Quaternary | 674 |
| Marine Lignite, Alfred J. Carsola | 676 |
| Continental Sediments of Miocene Age in Puget Sound Lowland, Washington, D. R. Mullineaux, L. M. Gard, and D. R. Crandell | 688 |
| Report of Certified Public Accountants, Arthur Young & Company | 705 |
| Part II | |
| Association Membership Directory (Published separate; not in bound volume) | |
| , | |
| | |
| NUMBER 4 (APRIL) | |
| Upper Cretaceous of Central Chiapas, Mexico, L. J. Chubb | 725 |
| Age and Correlation of Huizachal Group (Mesozoic), State of Tamaulipas, Mexico, Robert B. | 757 |
| Mixon, Grover E. Murray, and Teodoro Diaz G. West End of Serrania del Interior, Eastern Venezuela, Emile Rod | 757 772 |
| Geophysical and Petrological Study of Precambrian of Central Alberta, Canada, G. D. Garland | |
| and R. A. Burwash Statistical Analysis of Regional Facility Change in Ordenisis Coherent Live Coherent | 790 |
| Statistical Analysis of Regional Facies Change in Ordovician Cobourg Limestone in North- western New York and Southern Ontario, L. Lippitt | 807 |
| and country as supper the first the | |
| | |

| Ordovician Chazyan Series of Champlain Valley, New York and Vermont, and Its Reefs, Philip Oxley and Marshall Kay Lithologic Analysis of Sedimentary Rocks, Robert P. McNeal Bellshill Lake Field, Alberta, John C. Rudolph Use of Carbon Isotope Analyses of Carbonates for Differentiating Fresh-Water and Marine Sediments, Robert N. Clayton and Egon T. Degens. | 817 854 880 890 |
|--|--------------------------|
| | |
| NUMBER 5 (MAY) | |
| Origin of Petroleum, W. G. Meinschein Geology of Avery Island Salt Dome, Iberia Parish, Louisiana, Fred W. Bates, Robert R. Cope- | 925 |
| land, Jr., and Kenneth P. Dixon. Geologic Case History of Slocum Dome, Anderson County, Texas, John L. Read, Jr. Continental Slope Off Southwest Florida, G. F. Jordan and H. B. Stewart, Jr. Structure and Accumulation of Hydrocarbons in Southern Foothills, Alberta, Canada, F. G. | 944 958 974 |
| Fox . Middle Devonian Sedimentation and Oil Possibilities, Central Saskatchewan, Canada, | 992 |
| Ralph W. Edie | 1026 |
| Ralph W. Edie Pseudo Evidences of Oil and Gas, Ralph Arnold Stratigraphy of Deep Creek Mountains, Utah Kenneth F. Bick | 1058 1064 |
| Fossiliferous Marine Redbeds in Minturn Formation (Des Moines) near McCov. Colorado. | |
| Theodore R. Walker | 1069 |
| Bradley . Advantages of Large Constant "Rod Correction" in Stadia Surveying, Richard L. Threet | 1072 |
| Survey of College Students Majoring in Geology | 1075 1079 |
| Stratigraphy of Northwestern Part of Wind River Basin, Dubois Area, Wyoming, William R. Keefer | 1080 |
| | |
| NUMBER 6 (HIME) | |
| NUMBER 6 (JUNE) | |
| Exploratory Drilling in 1958, B. W. Blanpied | 1117 |
| New York, W. Lynn Kreidler Pennsylvania, William S. Lylle | 1139 1144 |
| Pennsylvania, William S. Lylle Ohio, Robert L. Alkire, Bernard A. Floto, and Allan W. Johnson | 1161 |
| West Virginia, R. C. Tucker | 1169 |
| Kentucky, Edmund Nosow | 1173 |
| West Virginia, R. C. Tucker Kentucky, Edmund Nosow. Tennessee, H. C. Milhous | 1181 |
| Illinois, Alfred H. Bell and Jacob Van Den Berg | 1183 |
| Indiana, G. L. Carpenter | 1191 |
| Michigan, R. E. Ives and G. D. Ells North Mid-Continent, George Q. Williams | 1197 1208 |
| Oklahoma M. C. Roberts | 1221 |
| Oklahoma, M. C. Roberts | 1235 |
| West Texas-Southeast New Mexico, Bernold M. Hanson et al. | 1248 |
| North Texas, J. H. Bass | 1266 |
| West-Central Texas, K. F. North | 1276 1283 |
| East Texas, Gene K. Koonce and Frank P. Battan | 1293 |
| Upper Gulf Coast of Texas, A. D. Brixey, Jr., and M. R. Yust | 1304 |
| Upper Gulf Coast of Texas, A. D. Brixey, Jr., and M. R. Yust Louisiana Gulf Coast, D. E. Hyer and Warren Latshaw | 1312 |
| Arkansas-North Lousiana, W. L. Champion and S. A. Blanton | 1322 |
| Southeastern States, F. B. St. John, Jr., and T. W. Lusk Atlantic Coastal States, Horace G. Richards | 1331 1343 |
| Montana and Dakotas, John R. Dyer and Robert H. Burton | 1345 |
| Wyoming and Idaho, Eugene C. Eaton | 1356 |
| Utah and Nevada, D. A. Preston and Graham S. Campbell | 1364 |
| Colorado and Western Nebraska, Vail Kinsey Arizona and Western New Mexico, Harrell Budd | 1370 |
| West Coast Area H. L. Pobence | 1379 1389 |
| West Coast Area, H. L. Popenoe | 1406 |
| Eastern Canada, D. Jardine and B. V. Sanford | 1419 |
| Alaska, H. Mann | 1427 |
| Minutes, Forty-Fourth Annual Business Meeting, Harold T. Morley | 1439 |

BULLETIN

of the

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

G. E. MURRAY, Editor LOUISIANA STATE UNIVERSITY, BATON ROUGE, LOUISIANA

ASSOCIATE EDITORS

GENERAL

APPALACHIANS NORTH CENTRAL STATES KANSAS OKLAHOMA-Western Eastern
TEXAS—North and Central
Northeastern
San Antonio Permian Basin TEXAS GULF COAST

LOUISIANA GULF COAST EASTERN GULF COAST ARKANSAS & N. LOUISIANA ROCKY MOUNTAINS

PACIFIC COAST-NEVADA-ARIZONA-NEW MEXICO ALASKA ALASKA
EASTERN CANADA
WESTERN CANADA
MEXICO-CENT. AMERICA
SOUTH AMERICA
EUROPE
MIDDLE EAST FAR EAST

ASSOCIATE EDITORS

R. W. LANDES, Jersey Prod. Research Co., 1133 N. Lewis, Tulsa, Okla, K. C. Heald, 605 Continental Life Building, Fort Worth 2, Tex. M. KING HUBBERT, Shell Dev. Co., 3737 Bellaire Blvd., Houston 25, Tex. HUGH D. MISER, U. S. Geological Survey, Washington 25, D. C. L. NETTLETON, Geophysical Associates International, Houston, Tex. THERON WASSON, Pure Oil Company, 55 E. Wacker Drive, Chicago 1, Ill. ALBERT I. INGHAM, Peoples Natural Gas Company, Pittsburgh, Pa. EDWARD J. COMBS, Sun Oil Company, Evansville, Ind. ROBERT F. WALTERS, 510 Orpheum Building, Wichita 2, Kan. CARL C. BRANSON, University of Oklahoma, Norman, Okla. MYRON C. KIESS, Schermerhorn Oil Corporation, Box 287, Tulsa 1, Okla. RICHARD H. SCHWEERS, Texaco Inc., Fort Worth Tex. THOMAS H. SHELBEY, IR., Humble Oil & Rig. Co., Box 2025, Tyler, Tex. JOHN R. SANDIDGE, Mobil Oil Company, San Antonio 5, Tex. THEODORES. JONES, Union Oil Company, California, Midland, Tex. RICHARD L. DENHAM, Humble Oil & Rig. Co., Box 2180, Houston, Tex. RAY C. LEWIS, Highland Oil Co., 1201 San Jacinto Bldg., Houston, Tex. HAROLD N. HICKEY, The California Company, New Orleans 12, La. TOM McGLOTHLIN, Box 990, Laurel, Miss.

B. W. BLANPIED, Drawer 1731, Gulf Oil Corporation, Shreveport 93, La. T. C. HIESTAND, 2769 South Monroe St., Denver 10, Colo. JOHN M. PARKER, 518 Patterson Bldg., Denver 2, Colo. WILLIAM LEE STÜKES, Union Oil Company of California, Los Angeles, Calif. W. R. MORAN, Union Oil Company of California, Los Angeles, Calif. UR. R. MORAN, Union Oil Company of California, Los Angeles, Calif. JOHN F. CALEY, Geological Survey of Canada, Ottawa, Ontario J. B. WEBB, Almines Limited, Suite 609, 320 740 Ave. S. W., Calgary, Alberta E. J. GUZMAN, Petróleos Mexicanos, Humbold 35, 49 Piso, México, D. F. HOLLIS D. HEDBERGE, Gulf Oil Corporation, Box 1166, Pittsburgh 30, Pa. ROBERT E. KING, Amer. Overseas Petrol., Ltd., 485 Lexington Ave., N. Y. 17 HENRY HOTCHKISS, Rm. 2752, 30 Rockefeller Plaza, New York 20 G. F. KAUFMANN, Dogwood Drive, R. D. I, Box 312, Vorktow

VOLUME 43. PART II JULY—DECEMBER, 1959, PAGES 1497-2932

PUBLISHED MONTHLY

COPYRIGHT 1959 BY THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

ASSOCIATION HEADQUARTERS, BOX 979, TULSA 1, OKLAHOMA

Composed and printed by George Banta Company, Inc. Menasha, Wisconsin, U.S.A.

THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, INC.

OFFICERS FOR THE YEAR ENDING APRIL, 1960

L. G. Weeks, President, Westport, Conn. H. T. Morley, Secy.-Treas., Tulsa, Okla.

A. H. Bell, Vice-Pres., Urbana, Ill. G. E. Murray, Editor, Baton Rouge, La.

The foregoing officers and the Past-President, G. S. Buchanan, Cody, Wyo., constitute the Executive Committee

DISTRICT REPRESENTATIVES

(Terms expire after annual meetings of years shown in parentheses)

(Terms expire atter annual meeti Abilene (Tex.): R. R. Bloomer (60), W. N. Tindell (61) ALBERTA (Calgary): D. B. Bullock (60), J. L. Carr (60), J. A. Downing (61), O. A. Erdman (61), A. W. Farmilo (61), R. G. Gammell (60), S. A. Kerr (61) APALACHIAN: A. S. Cate (61), G. S. Shearrow (61) ARDMORE (Okla.): L. R. Riley (60) AUSTIN (Tex.): P. T. FLAWN (61) BARTLESVILLE (Okla.): W. M. Schulz (60) BATON ROUGE (La.): R. C. Draffen, Jr. (60) BATON ROUGE (La.): R. C. Draffen, Jr. (60) CAPITAL (Wash.): E. A. Finley (61), D. M. Kinney (60) COLOMBIA: C. T. Spalfing (60) COLOMBIA: C. T. Spalfing (60) CORPUS CRISITI (Tex.): M. H. Janszen (60), J. A. O'Brien (61), W. H. Wallace, Jr. (60) DAKOTA: J. R. Dyer (61) DALLAS (Tex.): E. W. Hard (60), W. B. Heroy, Jr. (61), R. N. Kolm (61), A. M. Lloyd (60), M. F. Reedy, Jr. (60) (60) DENVER (Colo.): D. R. Callier (61), E. K. Droullard (61), E. G. Griffith (61), J. G. Mitchell (60), W. R. Oates (61), C. L. Severy (60), D. S. Turner (60), R. J. Weimer (61) DURANGO (Colo.) D. T. Gibson (60), Mark Guinan (61) EAST TEXAS (Tyler): D. A. Mabra, Jr. (61) FORT WORTH (Tex.): Russell Farmer (61), M. D. Mauck (61) FOUR CORNERS: Frank Devlin (61)
FOUR CORNERS: Frank Devlin (60), W. K. Clark (60),
H. F. Fowler (61), L. C. Gravis (60), T. D. Hedley
(60), O. S. Hervey (61), O. G. Lundstrom (60), J. D.
Marsh (61), M. D. Roberts (60), S. M. Udden (61),
G. F. Wattord (61), J. M. Whatley (60)
ILLIMOIS: E. E. Rue (61), L. L. Whiting (60)
INDIANA-KENTUCKY: J. D. VAR FOSSEN (61)
INTERMOUNTAIN (Utah): E. B. Heylmun (61), M. Van
COUVERING (61), W. M. Woodward (60)
KANSAS: M. F. Bear (61), D. L. Hellar (60), R. P. Lehman
(61), D. W. Payne (60)
LAFAVETTE (La.): H. F. Crain (60), R. H. Ogden (61)
LIBERAL (Kan.): W. R. King, Jr. (61)

gs of years shown in parentheses)

Los Angeles: J. B. Anderson (61), R. E. Faggioli (60), G. H. Feister (60), R. R. Knapp (61), L. J. Simon (60), A. F. Woodward (61)

Michican, G. W. Straight (61)

Mississippe: A. E. Blanton (60), L. C. Powell (61)

Mississippe: A. E. Blanton (60), L. H. Harvey (60), H. N. Hickey (60), T. H. Philpott (61)

New York: C. H. Behre (60), A. Cree (61), H. Hotchkiss (60), B. F. Uhl (60)

NORTH CENTRAL: W. M. Furnish (60)

NORTH TEXAS: D. R. Fellows (60), H. J. Fitzgeorge (61)

NORTHERA CALIFORNIA: H. L. Driver (60), A. Safonov (61)

OKLAHOMA CITY: E. F. Culp (61), F. T. Damon (60), W. E. McMurtry (60), H. J. Reedy (60), R. M. Riggs (61)

PACIPIC NORTHWEST: J. R. Griffiths (61)

PACIPIC NORTHWEST: J. R. Griffiths (61)

PACIPIC NORTHWEST: J. R. Griffiths (61)

ROSWELL (N.M.): T. L. Ingram (60), R. E. Murphy (61)

SAN ANGELO (Tex.): M. L. Rhodes (60)

SAN JOAQUIN (Calif.): H. G. Billman (61), K. F. Krammes (60)

SAN JOAQUIN (Calif.): H. G. Billman (61), K. F. Krammes (60)
SANTA BARBARA (Calif.): J. F. Curran (60)
SASKATCHEWAN (Canada: D. R. Francis (61)
SHAWNEE (Okla.): F. J. Smith (60)
SHEEVEPORT (La.): F. N. Bianchard, Jr., (61) W. H. Marshall (60), H. J. Tyler (60)
SOUTH LOUISIANA: T. A. Freund (60)
SOUTH KANAS (San Antonio): R. M. Knebel (61), J. S. SOUTHEASTEN: D. J. Muproe (60)

SUTHEASTERN: D. J. Munroe (60)
TULSA (Okla.): G. W. Caylor (60), J. L. Ferguson (61),
A. Goldstein, Jr. (60), E. P. Neal (60, H. J. Schaetti
(61), H. M. Thralls (61) (61), H. M. Thralls (61)
VENEZUELA (Caracas): J. B. Klecker (61), E. Rod (60),
G. A. Young (60)
WEST TEXAS (Midland): R. W. Bybee (60), T. M. Culbertson (61), B. M. Hanson (61), A. H. Hedden (60),
W. G. Moxey (60), N. M. Requist (61), E. Riddle, Jr. (60), W. W. Roye (61)
WYOMING (Casper): G. L. Goodin (60), J. H. Wiese (61)

DIVISION REPRESENTATIVES

Paleontology and Mineralogy: Samuel P. Ellison, Jr. (60), Austin, Texas; John Imbrie (60), New York, N. Y.

CONTENTS OF VOLUME 43 (1959), PART II

MAJOR ARTICLES, NOTES, AND DISCUSSIONS

NUMBER 7 (IULY)

| | - | | | | | | |
|--|---|--|--|--|--|--|-------|
| Are We Running Out of Oil?, George S. Buchanan | * | | | | | | 1497 |
| There Is a Reason, Gordon Rittenhouse | | | | | | | 1500 |
| Geology, a Geophysical Tool, E. V. McCollum. | | | | | | | 1503 |
| 1958 Developments in Foreign Petroleum Fields | | | | | | | 4.505 |
| Mexico, Eduardo J. Guzmán | | | | | | | 1505 |

| South America and Caribbean, E. W. Clark Europe, Robert E. King Africa, Hollis D. Hedberg, John D. Moody, and Louis C. Sass Middle East, Henry Holchkiss Far East, Godfrey F. Kaufmann Geologic Cross Sections Sponsored by Geological Societies Affiliated or Cooperating with American Association of Petroleum Geologists During 1958, W. L. Adkison Special Publications and Guidebooks Published in 1958 by Societies Affiliated or Cooperating with American Association of Petroleum Geologists, William N. Gilliland | 1518 1581 1625 1676 1714 1733 |
|--|--|
| NUMBER 8 (AUGUST) | |
| Synchronous Highs: Preferential Habitat of Oil?, Robert Scholten | 1793 |
| Moenkopi Formation (Triassic? and Triassic) in Salt Anticline Region, Colorado and Utah, Eugene M. Shoemaker and William L. Newman | 1835 |
| Stratigraphic Relations of Hoskinnini Member (Triassic?) of Moenkopi Formation on Colorado Plateau, John H. Stewart Origin of Salt Anticlines of Paradox Basin, R. W. Jones Pennsylvanian and Permian Stratigraphy in Sangre de Cristo Mountains between La Veta | 1852 1869 |
| Pennsylvanian and Permian Stratigraphy in Sangre de Cristo Mountains between La Veta Pass and Westcliffe, Colorado, <i>Dudley W. Bolyard</i> Upper Mississippian-Lower Pennsylvanian Stratigraphy of Central Montana and Williston | 1896 |
| Basin, Ronald P. Willis Note 22—Records of the Stratigraphic Commission for 1957-1958, Kenneth E. Lohman | 1940 1967 |
| Note 23—Need for Rock-Stratigraphic Units Larger Than Group, John Rodgers and Richard B. McConnell Note 24—Unconformity-Bounded Units in Stratigraphy, Harry E. Wheeler | 1971 1975 |
| Field Conference Organization, Field Trip Research and Coordination Committee, A.A.P.G., George H. Fentress, chairman List of Forthcoming Field Trips in United States and Canada, George H. Fentress | 1978 1991 |
| Determination of Chloride in Water from Core Samples, Wolfgang V. Swarzenski Oil-Coal Association in Central Anzoategui, Venezuela, Luis M. Banks Revisions in Stratigraphic Nomenclature in Tucumcari-Sabinoso Area, Northeastern New Mexico, R. L. Griggs and C. B. Read | 1995 1998 2003 |
| Mexico, R. L. Griggs and C. B. Read Miniature Recorder: New Geological Tool, Samuel P. Ellison, Jr. Addition of Perspective to Contour Maps, H. W. Patnode and Robert P. Trump Ouachita Belt and Arbuckle Element: Interpretation, Peter T. Flawn | 2008 2009 2012 |
| NUMBER 9 (SEPTEMBER) | |
| Statistics on Natural Gas Discoveries—1953, B. W. Blanpied | 2041 |
| Sedimentary Facies from Shallow Borings in Lower Mississippi Delta, Francis P. Shepard and Robert R. Lankford | 2051 |
| Distribution and Ecology of Foraminifera from East Mississippi Delta Margin, Robert R. Lankford | 2068 |
| Macro-Invertebrate Assemblages of Central Texas Coastal Bays and Laguna Madre, Robert H. Parker Stratigraphy of Pennsylvanian, Permian, and Lower Triassic Rocks of Confusion Range, | 2100 |
| West-Central Utah, Richard K. Hose and Charles A. Repenning San Andres Limestone and Related Permian Rocks in Last Chance Canyon and Vicinity, | 2167 |
| Southeastern New Mexico, Philip T. Hayes Pennsylvanian Oil Possibilities of San Juan Basin, Four Corners Region, Sherman A. Wengerd Industry and Geological Agencies Evaluate a Curriculum in Geology, Paul Dean Proctor Limestone Conglomerates (Recent and Cretaceous) in Southern Florida, Joseph E. Banks Results of 1959 Nationwide Geology Examination Offered by United States Civil Service | 2197 2214 2228 2237 |
| Commission, R. E. Van Alstine | 2243 |
| NUMBER 10 (OCTOBER) | |
| Montoya Group Stratigraphy (Ordovician) of Trans-Pecos Texas, Herbert J. Howe Ordovician and Silurian Stratigraphy and Sedimentation in Southern Manitoba, Canada, | 2285 |
| John M. Andrichuk | 2333 |
| Stratigraphy and Depositional Tectonics of North Yukon-Lower Mackenzie Area, Canada, L. J. Martin | 2399 |

| White Mesa Field, Environmental Trap, San Juan County, Utah, M. Dane Picard Bay Sainte Elaine Oil Field, Southern Louisiana, Stephen J. Schneider Primary Degradation of Chlorophyll under Simulated Petroleum Source Rock Sedimentation Conditions, Gordon W. Hodgson and Brian Hitchon Difunta Strata of Tertiary Age, Coahuila, Mexico, Grover E. Murray, James A. Wolleben, and Donald R. Boyd Oil Exploration in Australia, C. W. Siller and E. A. Webb; P. E. Playford and M. H. Johnstone Age and Correlation of Huizachal Group (Mesozoic), State of Tamaulipas, Mexico—Addendum, Robert B. Mixon, Grover E. Murray, and Teodoro Diaz. San Lorenzo Formation (Agua Salada Group) of Eastern Falcon, Venezuela, a Valid Lithostratigraphic Name, H. H. Renz | 2456 2470 2481 2493 2496 2499 2500 |
|---|--|
| NUMBER 11 (NOVEMBER) | |
| Pre-Desmoinesian Isopachous and Paleogeologic Studies in Central Mid-Continent Region, | |
| George G. Huffman. Sedimentation of Some Springer Sandstone (Mississippian-Pennsylvanian) Reservoirs, | 2541 |
| Sedimentation of Some Springer Sandstone (Mississippian-Pennsylvanian) Reservoirs, | 2575 |
| Southern Oklahoma, Lynn Jacobsen. Nature of Growth of Southern Louisiana Salt Domes and Its Effect on Petroleum Accumula- | |
| tion, Gordon Atwater and McLain J. Forman | 2592 |
| Stratigraphy of Jackson Group (Eocene), South-Central Texas, D. Hoye Eargle | 2623 |
| Late Mesozoic Positive Area in Western Utah, H. D. Harris Problems of Fault Nomenclature, John C. Crowell | 2636 2653 |
| Problems of Fault Nomenclature, John C. Crowell Major Gas Fields of West Pakistan, H. R. Tainsh, K. V. Stringer, and J. Azad Turbidite, Tectonic and Gravity Transport, Northern Apennine Mountains, Italy, John C. | 2675 |
| Maxwell | 2701 |
| Correlation of Boskydell Sandstone in Southwestern Illinois, George A. Desborough Salt-Dome Breccia, Gordon Atwater and McLain J. Forman | 2720 2725 |
| NUMBER 12 (DECEMBER) | |
| Brazer Dolomite (Mississippian), Randolph Quadrangle, Northeast Utah, W. J. Sando, | |
| J. T. Dulro, Jr., and W. C. Gere Relations of Certain Upper Jurassic and Lower Cretaceous Formations in Southwestern Ore- | 2741 |
| gon, Ralph W. Imlay, Hollis M. Dole, Francis G. Wells, and Dallas Peck Revision of Colorado Group on Sweetgrass Arch, Montana, W. A. Cobban, C. E. Erdmann, | 2770 |
| R. W. Lemke, and E. K. Maughan K-Feldspar Content of Jurassic and Cretaceous Graywackes of Northern Coast Ranges and | 2786 |
| K-Feldspar Content of Jurassic and Cretaceous Graywackes of Northern Coast Ranges and Sacramento Valley, California, Edgar H. Bailey and William P. Irwin. Revised Correlations of Lower Upper Devonian Rocks in Western and Central New York, | 2797 |
| | 2810 |
| Wallace de Witt, Jr., and George W. Colton Prospecting for Stratigraphic Traps, Daniel A. Busch | 2829 |
| Regional Magnetic Map of Florida, Elizabeth R. King Pigeon Point Formation of Late Cretaceous Age, San Mateo County, California, C. A. Hall, | 2844 |
| Jr., D. L. Jones, and S. A. Brooks Effect of Sea Water on Properties of Liquid Hydrocarbons, G. V. Chilingar | 2855 2860 |
| Transfer, a Synthesis of Stratigraphic Processes, John Andrew Wilson | 2861 |
| Uniformitarianism—or Unconformity, W. C. Bell | 2862 |
| Uniformitarianism—or Unconformity, W. C. Bell Problems of Stratigraphic Nomenclature and Classification, Upper Pennsylvanian, North-Central Texas, L. F. Brown, Jr. | 2866 |
| | |

